5-1980

A Comparison of Employer Hiring Practices and Career Opportunities Between Two-Year and Four-Year Accounting Graduates Who Have Full Time Positions in the Work Force Within The State of Utah

Anita Weston
Utah State University

A COMPARISON OF EMPLOYER HIRING PRACTICES AND CAREER OPPORTUNITIES BETWEEN TWO-YEAR AND FOUR-YEAR ACCOUNTING GRADUATES WHO HAVE FULL TIME POSITIONS IN THE WORK FORCE WITHIN THE STATE OF UTAH

by

Anita Weston

A dissertation submitted in partial fulfillment of the requirement for the degree

of

DOCTOR OF EDUCATION

in

Curriculum Development and Supervision with a Special Emphasis in

Business Education

UTAH STATE UNIVERSITY

Logan, Utah

1980

ACKNOWLEDGEMENTS

Special thanks and appreciation to:

My Committee:

Dr. Edward L. Houghton, Chairman

Dr. David H. Luthy

Dr. Donald V. Sisson

Dr. Ross R. Allen

Dr. Lloyd W. Bartholome

My Family, especially:

Parents, Ben E. and Marie Weston

Sister and family, Carolyn and Ted Davidson and Boys

Brother and family, Dale and Pam Weston and children

My friends, particularly:

Numerous graduate students who have studied here at Utah State University

Beta Nu Chapter of Delta Pi Epsilon

Fellow teachers and staff members.

Anita Weston

TABLE OF CONTENTS

Page

ACKNOWLEDGEMENTS ii

LIST OF TABLES vi

ABSTRACT xi

Chapter

I. INTRODUCTION 1

Statement of the problem 6
Purposes of the study 7
Importance of the study 13
Scope of the study. 15
Definitions 16
Summary 19

II. REVIEW OF LITERATURE 20

Introduction 20
Forces affecting accounting today 21
Educational accounting levels 23
Reasons for hiring paraprofessionals . . . 30
Reasons for not hiring paraprofessionals 32
Professional development and life-long learning 37
Summary 42

III. METHODS AND PROCEDURES 44

Identification of the population 44
Design of the instruments 46
Pilot study 49
Sampling techniques 50
Analyses of data 52
Summary . . . . .

TABLE OF CONTENTS (Continued)

Page

Chapter

IV. FINDINGS 61

Analyses of hypothesis one 62
Analyses of hypothesis two 74
Analyses of hypothesis three 85
Analyses of hypothesis four 91
Analyses of hypothesis five 95
Analyses of hypothesis six 96
Summary 127

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . 130

Summary 130
The problem 130
The subjects 130
The procedures 131
Analyses of the data 133
Hypotheses. 133
Hypothesis one 133
Hypothesis two 134
Hypothesis three 134
Hypothesis four 135
Hypothesis five 135
Hypothesis six 136
Conclusions 136
Based on significant differences found 136
Based on consensus of interviewees 138
Recommendations 140
General recommendations 140
Recommendations for further studies . . . 144

LITERATURE CITED 146

APPENDIXES 149

Appendix A: Telephone conversation used in contacting employers 150
Appendix B: Companies willing to participate . . 152
Appendix C: One-way analysis of variance tables 159

TABLE OF CONTENTS (Continued)

Page

Appendix D: Instrument used during employer interview 178
Appendix E: Instrument used during accountant interview 186
Appendix F: Titles of persons interviewed for employer information 193
Appendix G: Titles of positions held by accountants interviewed 195
Appendix H: Schools attended by accountants 198

VITA 200

LIST OF TABLES

Table		Page
1	Businesses within the state of Utah with $500,000 or more net worth and those located along the Wasatch Front	46
2	An analysis of variance for the number of two-year and four-year accountants employed by businesses full-time	63
3	A listing of the percentages of "yes" and "no" responses as well as chi square values for employer responses for both two-year and four-year accountants concerning employer hiring practices	65
4	An analysis of variance for salary paid to two-year and four-year accountants by employers	68
5	A listing of the percentage of "yes" and "no" responses as well as chi square values for employer responses for both two-year and four-year accountants concerning employer promotional practices	75
6	One-way analysis of variance for annual salary increase for two-year and four-year accountants if given a promotion	83
7	Company policy concerning promotions granted to newly hired accounting employees as reported by employers	84
8	A listing of the percentages of "yes" and "no" responses as well as chi square values for both two-year and four-year accountants regarding the accounting educational program taken	87
9	One-way analysis of variance for elementary accounting I	93

LIST OF TABLES (Continued)

Table		Page
10	One-way analysis of variance for elementary accounting II	93
11	One-way analysis of variance for business law	94
12	One-way analysis of variance for business machines	94
13	One-way analysis of variance for salary received by four-year and two-year educated accountants	96
14	One-way analysis of variance for length of time accountants had been employed by their current employer	98
15	One-way analysis of variance for length of time the accountants had been in their current position	99
16	A listing of the percentage of "yes" and "no" responses as well as chi square values for both two-year and four-year accountants concerning their view of job promotional opportunities	100
17	Previous position, salary and length of time spent in that position by four-year accounting graduates	108
18	Previous position, salary and length of time spent in that position by two-year accounting graduates	109
19	Promotional title and time estimate before such a promotion to be granted for both two-year and four-year accountants	112
20	One-way analysis of variance for approximate range of per year salary increase if granted a promotion	116

LIST OF TABLES (Continued)

Table		Page
21	Titles of job entry position plus first and second promotions granted to both two-year and four-year accounting graduates	118
22	Titles and job entry and first promotion granted to both two-year and four-year accounting graduates	119
23	Titles of first and second promotions granted to both two-year and four-year accounting graduates	120
24	One-way analysis of variance for current starting salary of non-experienced accountant	122
25	One-way analysis of variance for first year bookkeeping	160
26	One-way analysis of variance for second year bookkeeping	160
27	One-way analysis of variance for managerial accounting	161
28	One-way analysis of variance for intermediate accounting I	161
29	One-way analysis of variance for intermediate accounting II	162
30	One-way analysis of variance for advanced accounting I	162
31	One-way analysis of variance for advanced accounting II	163
32	One-way analysis of variance for cost accounting I	163
33	One-way analysis of variance for cost accounting II	164

LIST OF TABLES (Continued)

Table		Page
34	One-way analysis of variance for industrial accounting	164
35	One-way analysis of variance for auditing	165
36	One-way analysis of variance for federal income tax accounting I	165
37	One-way analysis of variance for federal income tax accounting II	166
38	One-way analysis of variance for basic computer concepts I	166
39	One-way analysis of variance for basic computer concepts II	167
40	One-way analysis of variance for basic programming	167
41	One-way analysis of variance for COBOL programming	168
42	One-way analysis of variance for fortran programming	168
43	One-way analysis of variance for data processing applications	169
44	One-way analysis of variance for systems design and development	169
45	One-way analysis of variance for principles of insurance	170
46	One-way analysis of variance for business mathematics	170
47	One-way analysis of variance for business English	171
48	One-way analysis of variance for technical writing	171

LIST OF TABLES (Continued)

Table		Page
49	One-way analysis of variance for business statistics	172
50	One-way analysis of variance for principles of finance	172
51	One-way analysis of variance for principles of business	173
52	One-way analysis of variance for management information systems	173
53	One-way analysis of variance for office management	174
54	One-way analysis of variance for principles of management	174
55	One-way analysis of variance for principles of advertising	175
56	One-way analysis of variance for economics I	175
57	One-way analysis of variance for economics II	176
58	One-way analysis of variance for keypunch	176
59	One-way analysis of variance for other	177

ABSTRACT

A Comparison of Employer Hiring Practices and Career Opportunities Between Two-Year and Four-Year Accounting Graduates Who Have Full Time Positions in the Work Force Within the State of Utah

by

Anita Weston, Doctor of Education

Utah State University, 1980

Major Professor: Dr. Edward L. Houghton
Department: Business Education

This study was conducted to determine if employers were inclined to discriminate between two-year and four-year educated accountants in making hiring and promotional decisions. In addition, accounting graduates of two-year and four-year institutions were studied to see if there were differences between these two groups in regard to educational programs taken, perceptions of the benefit received from the courses taken, salaries received, and views concerning employer hiring and promotional practices.

This study included three different groups consisting of 39 employers in the private business sector as well as 43 two-year accounting associate degree graduates and 43 bachelor accounting degree graduates. A sample of businesses from the Wasatch-Front Area of the State of Utah was drawn and personal interviews held in order to collect the desired data.

Conclusions based upon the significant differences found during the analyses of the data indicated that employers paid four-year accounting educated graduates higher salaries and believed these graduates did not need as much additional education as two-year graduates when education was a criteria used in determining promotions. Employers indicated, too, that four-year accountants were better prepared educationally to handle "detailed and difficult accounting tasks," as well as "accounting theory and principles."

There was a difference in the accounting educational programs taken between two-year and four-year accounting graduates. Differences were found in 21 courses, with four-year graduates having had more instruction in 19 of these subjects while the two-year graduates had more exposure in two of the courses. The benefits received from courses taken was also viewed differently by accountants.

The four-year graduates earned a significantly higher salary and were given more opportunities for financial assistance in upgrading accounting skill and knowledge.

Conclusions based on similar opinions and views revealed that most employers were willing to hire graduates from postsecondary schools without previous work experience and considered graduates from the various postsecondary educational institutions as being adequately prepared to handle the positions to which they were assigned. Most employers

also deduced that graduates did need additional education in certain areas and believed that accounting internships would have been helpful.

Most companies did not have a policy dictating annual salary increases nor job advancement plans for accounting personnel.

Most accountants on the job had been with their current employer between three and four years, and the time spent in their present positions was slightly over two and one-half years.

Most accountants believed that an internship experience would have been beneficial to them prior to their entering the work force and would have been willing to work for a company in connection with their school preparation.

(201 pages)

CHAPTER I

INTRODUCTION

There is a growing need for accountants and bookkeepers in the business world today. It was reported in the Fall/ Winter 1979-80 extra edition No. 5 of Occupations in Demand at Job Service Offices that the accounting and auditing occupation group was listed in the "Hard to Fill Occupations" at Job Service Offices. According to this report, 2,100 positions were available during the month and 61 percent were still available at month's end. Furthermore, 30 percent of these positions were still available for thirty days or more. In addition, listed under occupations usually requiring a high school education was the accounting clerk with 3,182 openings available for the month with 1,434 positions still available at the end of the month (pp. 1-2). Conover and Daggett reported in the Balance Sheet (September, 1976, p. 17) that by 1985 the need for bookkeepers will increase by 19.5 percent. Thus, job opportunities are available for more and more accountants and bookkeepers.

The rapid economic growth, patterns of employment requiring specialization, more complex laws passed by the

legislature, the general concern for economic literacy, and rapidly changing technology are just some of the reasons why there is a demand for people to be trained in the accounting and bookkeeping area (NBEA Yearbook, 1976, pp. 6-11). Usry stated that the steady rise in the importance and influence of accountants is due to the increasing complexity of the modern industrial world (Usry, 1973, p. 90).

Because of the increased need for employees in the area of accounting, schools--both secondary and post-secondary--have placed an accounting curriculum in their program. As stated in the 1976 NBEA Yearbook:

> Between 1930 and 1970, the number of junior colleges doubled, and enrollments increased from about 230,000 to over two million. A typical business program in a junior college provides terminal vocational education, preparation for upper-division study, and continuing education for adults in the community. Increased sophistication of knowledge and skills in the accounting world demand a greater degree of competence even at the junior college level (NBEA Yearbook, 1976, p. 4).

Administrators and teachers at many junior colleges and/or other two-year institutions in the accounting area are attempting to do several things at once. Students are being prepared in junior colleges for transfer to the four-year institutions and for the job market, as well as being given general economic literacy skills.

According to a study conducted by Professor Horowitz of the Borough of Manhattan Community College, two-year accounting graduates did not have such a thing as a "meaningful career" program. According to Horowitz's findings, the few jobs that were available were "dead end" situations unless there was movement toward a higher degree. All of the "success" stories Horowitz dealt with concerning accounting program graduates involved those individuals who had earned at least a bachelor's degree (Horowtiz, 1974, p. 282).

As stated in Horowitz's study, many business organizations never hire two-year college graduates. Job titles in companies that do hire two-year people were clerical in nature or equivalent to those positions granted to high school graduates. If two-year graduates were hired by a company, these individuals were forced into training and educational programs in order to gain promotions and receive additional salary benefits. It was further reported that students who did not have a four-year degree did not have much for which to look forward. Thus, according to Horowitz, teachers in accounting programs at the junior college level would accomplish more by focusing on one objective--that of transfer to a university. Vocational preparation for an entry level position of bookkeeper, accounting technician or

accounting paraprofessional should be kept at the secondary school level (Horowitz, p. 282).

However, in an article in the Balance Sheet entitled "Don't Send an Accountant to do a Bookkeeper's Job," Ramage stated that there should be a division made between jobs to be performed by bookkeepers and accountants. Ramage implied that the clerical level positions should be filled by either high school graduates or individuals with no bookkeeping training at all. Ramage further gave the impression that the bookkeeper should be the individual trained at the two-year institution.

Because of the increasing complexity of financially related laws, the continued increase in governmental regulations, and the need for the accountants to work with theoretical information; there are ever-increasing numbers of tasks and duties to be performed in the maintenance of financial records. Thus, there should be a place for the two-year person to fit into the business world by assuming many of the lesser duties now mixed between current bookkeepers and accountants. According to Ramage, there was a need for the term bookkeeper to be used to fill the gap between the clerk and the accountant to assume the duties that also fall between the two positions.

Other researchers have shown an interest in the two-year paraprofessional or technical accountant.

Specifically, Ozello (1967), Kelly (1970), and Yandoh (1971), provide evidence that key functions in accounting can be performed adequately by graduates of two-year colleges. Kelly verified that such positions were open to these graduates. Generally these positions require higher-level competencies than those for which the high school graduates were hired, but considerably lower level than those required by professional accountants.

Barton (1975), King (1976), and Ramage (1978), after a comparison of various two-year accounting programs and their objectives as well as a follow-up of graduates from these programs, were able to conclude that two-year preparation did assist individuals in obtaining positions in the work force. Yandoh (1971) specifically included a section in his study concerning the job titles filled by two-year college accounting graduates. He determined that various titles were used and that the majority of individuals hired in businesses from two-year programs were clerical in nature.

In a report conducted by the American Accounting Association (1973), it was found that approximately one-third of the graduates of two-year college accounting programs studied entered the work force in accounting and accounting related positions. On the other hand, there is evidence that some of these graduates delayed entry into business and attended four-year colleges. For

example, Yandoh (1971, p. 61) studied 207 two-year graduates of accounting programs in 13 community colleges and found that approximately half of them entered four-year colleges.

Research studies such as the above have been completed where investigators have made comparisons of various two-year accounting programs and their objectives. Tasks performed by graduates from the two-year institutions have also been determined. Data has also been gathered as a follow-up of graduates from the two-year educational institutions to determine job placement. No research studies, however, were found where investigators searched company procedures to determine if employers treated two-year associate degree accounting graduates any differently than they treated four-year accounting graduates.

This study was conducted to determine if two-year and four-year levels of accountants were given equal opportunity by employers to move up the career ladder.

Statement of the Problem

The problem of this study was to determine if there were differences in the way employers treated two-year associate degree and/or certificate graduates and four-year bachelor degree graduates in accounting in connection with hiring and promotional practices.

Purposes of the Study

The purposes of this study were to determine the actual on-the-job employment practices of employers, and the career opportunities that employers offered to their accounting employees in the way of promotions. A comparison was also made of the educational preparation in accounting of two-year associate degree and/or certificate college graduates and four-year university bachelor degree graduates. The opinions held by these two accounting groups in connection with the benefits of their accounting preparation were also obtained. A comparison was made between the two educational levels concerning salaries earned. Conclusions made by these two groups pertaining to their employer's hiring and promotional practices was also compared.

The following null hypotheses were tested:

1. There will be no significant differences in the hiring practices by employers of the two-year and four-year accounting graduates.

Specific information obtained for hypothesis one was:

a. Would you hire a university accounting graduate and/or a two-year associate degree accounting graduate with no previous work experience; and, if yes, what approximate starting monthly salary would

individuals from these two different educational levels be paid?

b. If you have hired individuals from these two different educational levels without previous work experience, were they adequately prepared by the educational institution to handle the position to which they were assigned? If yes, in which areas were these employees especially well qualified?

c. Were these employees who were hired without previous work experience in need of additional educational background in certain areas? If yes, in what areas should greater attention be given by the educational institutions?

d. Would an accounting internship or work experience program be beneficial for individuals prior to their gaining a degree, and would you be willing to have students work with your company in order to gain such on-the-job experience?

2. There will be no significant difference in employer promotional practices for the two-year and four-year accounting educated individuals.

a. Does your company require full-time employees to attend any workshops, conferences, inservice

training programs, and so forth, to up-grade their accounting knowledge and skill? If yes, indicate which programs are required.

b. Does your company assist employees financially to up-grade accounting knowlege and skill? If yes, what kind of assistance is given?

c. Does your company subscribe to magazines specifically for accounting department personnel use? If yes, which magazines specifically does your company provide?

d. Would additional education in accounting increase these employees' chances for promotion? If yes, what kind of educational programs are acceptable for such promotions?

e. When an accounting employee is given a promotion, does the company have a predetermined per year amount of money that is granted with such a promotion? If yes, approximately how much would the accountant's per year salary increase?

f. Does your company have a specific policy concerning advancement or promotion of newly hired accounting personnel? If yes, what job titles are used by the company for an entry level position, a first promotion position, and a second promotion position?

3. There will be no significant difference in the accounting educational programs taken by two-year and four-year accounting students.

Specific information obtained for hypothesis three requested two-year and four-year accountants to list the courses taken while attending school.

4. There will be no significant difference between two-year and four-year accounting graduates in the way they view the benefits that they have received from their educational programs.

Specific information obtained for hypothesis four requested two-year and four-year accountants to rate each of the courses they had taken while attending school as being of "great benefit," "some benefit," or "no benefit."

5. There will be no significant difference in salaries currently being earned between two-year and four-year educationally prepared individuals.

Specific information obtained for hypothesis five requested two-year and four-year accountants to list an approximate salary currently being earned in their present positions in the company.

6. There will be no significant difference concerning hiring and promotional practices of employers as viewed by two-year associate degree and/or certificate

individuals and four-year bachelor degree university graduates.

Specific information obtained for hypothesis six was:

a. How long have you been employed by your current employer?

b. What is the length of time you have been working in your present position?

c. Have you held any other accounting related positions in this company? If yes, please give title and salary. If no, was this your first accounting position upon graduation, or did you transfer to your present position from another company?

d. Will you have the opportunity to be promoted to a higher position if you continue working for your present employer? If yes, what will be your job title and how long before such a promotion will become available to you? If no, why won't a promotion become available to you?

e. Would additional education in accounting increase your chances for promotion? If yes, what kind of education is acceptable by the company for such a promotion?

f. When you are given a promotion, does your company have a predetermined per year amount of

money that is granted with such a promotion? If yes, approximately what would be the dollar yearly increase granted?

g. Does your company have a specific policy concerning advancement of newly hired accounting personnel? If yes, what are the job titles used by the company to indicate different advancement levels?

h. Would your company hire a graduate with no previous work experience? If yes, what would be the approximate starting salary of a newly hired employee?

i. If you were hired without previous work experience, were you adequately prepared by the educational institution to handle the position to which you were assigned. If yes, in what areas were you especially well qualified?

j. If you were hired without previous work experience, did you need additional educational background in certain areas? If yes, what were these areas that should receive greater attention at the educational institutions?

k. Would an accounting internship or work experience program have been beneficial to you prior to your obtaining a degree and finding full-time employment? If yes, would you have been willing to work for a

company during your school preparation to gain such on-the-job experience?

l. Does your company require you to attend any workshops, conferences, inservice training programs, and so forth, to up-grade your accounting knowledge and skill? If yes, what meetings and programs are required?

m. Does your company assist you financially to up-grade accounting knowledge and skill? If yes, how is this financial assistance given?

n. Does your company subscribe to magazines specifically for use in the accounting department? If yes, what specific literature is provided?

Importance of the Study

When each segment of industry or education works at its most efficient point, greater results accrue. In the past, much time, effort, and money has been spent in business to refine and segregate activities, duties, and jobs, so that greater efficiency and results are achieved. This can be referred to as the "American Way of Life (Biehler, 1973, p. 119)." Just as business has turned to specialization, educational leaders have also attempted to prevent overlapping and duplication of educational endeavor as well. However, it may be that educational leaders are ahead of business practice in

trying to segregate the clerk (the untrained and/or high school student), the bookkeeper (the two-year associate degree person), and the accountant (the four-year person). It may be that businessmen may have not yet made that distinction. Then, too, businessmen may actually be hiring and requiring four-year university graduates when in actual practice, a two-year educated individual may be able to adequately handle the work. The opposite, of course, could also be true.

The results of this study will provide educators and businessmen with an opportunity to gain insight into the actual and prevailing employment practices with regard to two- and four-year accounting graduates. Findings from the study should allow businessmen to gain an understanding of their own current needs and practices as well as making it possible for them to make wiser and perhaps more economical personnel hiring decisions. Educators will be able to compare their course offerings with the job advancement opportunities available to their graduates, thereby making it possible to determine if curriculum is relevant and pertinent for accounting majors. Accounting students can be assisted in making educational decisions by being able to ascertain if the career opportunities and promotional advancements resulting from the different educational levels fit their desired objectives and goals. Accounting students can further

decide if it is economically feasible for them to pursue the alternate educational options available to them.

Scope of the Study

This study was limited to a survey of a random sample of 39 private employers in Utah who were located in the Wasatch Front area. Only employers who hired both two-year and four-year accounting graduates as part of their regular full-time working staff were included in this study. This survey also included an instrument completed by 43 two-year and 43 four-year accounting graduates who were currently employed by these 39 private businesses. Only responses from accountants who had received their education from two- and four-year institutions since 1970 were used. The educational level of two-year associate degree and/or certificate and four-year university bachelor degree was the criteria used for dividing the accountants into two groups independent of whether or not such educational levels led to a person receiving a certified public accounting (CPA) certificate, a certified management accounting (CMA) certificate, or a chartered bank auditor (CBA) certificate. Analysis of CPA, CMA, and CBA certificates were not included nor considered to be within the scope of this study.

This study was limited to the Wasatch Front in Utah, an area extending from Provo on the south to Ogden on the

north. This area is where the largest percentage of businesses within the state of Utah are clustered.

Definitions

For the purposes of this study, the following items are defined:

Accountant

An accountant is an individual who performs financial activities for which four years of education are required and/or a bachelor's degree has been received.

Accounting position

An accounting position is any position requiring the performance of accounting activities for which training beyond high school is necessary, but for which a baccalaureate degree in accounting is not a prerequisite for employment.

Accounting technician

An accounting technician is an individual who has obtained a two-year associate degree or at least two-years, but less than four-years, of accounting educational experience. An accounting technician performs tasks for which the full range of professional expertise is not required. This term is used interchangeably with paraprofessional and technical accountant.

Bookkeeper

A bookkeeper is an individual who does all bookkeeping of an enterprise, or whose work is specialized, such as one

who maintains the general ledger or who works on accounts receivable. The term could refer to an individual who has had some bookkeeping training or someone who has attended postsecondary educational institutions.

Clerk

A clerk is an individual hired without any previous accounting and/or bookkeeping courses and is trained entirely on the job.

Four-year university graduate

A four-year university graduate refers to an individual who has received a bachelor's degree in accounting. The terms accountant and professional accountant are used to describe the individual who has received this level of educational preparation in accounting.

Paraprofessional

A paraprofessional is an individual who has obtained a two-year associate degree or at least two-years, but less than four-years, of accounting educational experience. A paraprofessional performs tasks for which the full range of professional expertise is not required. This terms is used interchangeably with accounting technician and technical accountant.

Private business

A private business is a business enterprise that is owned and operated with a profit motive objective. It can be any one of several types of business organization such as a single proprietorship, a partnership, and/or a

corporation. Non-profit organizations and governmental organizations do not fit into this category and are excluded.

Professional accountant

A professional accountant is an individual who has obtained at least a bachelor's degree in the accounting area and is capable of supervising the preparation of financial statements, developing design and control methods, and interpreting and advising in various financial matters.

Technical accountant

A technical accountant is an individual who has obtained a two-year associate degree or at least two-years, but less than four-years, of accounting educational experience. A technical accountant performs tasks for which the full range of professional expertise is not required. This term is used interchangeably with accounting technician and paraprofessional.

Two-year educated individual

A two-year educated individual refers to any accountants who have received at least two-years of accounting education but less than four-years at any postsecondary institution. These individuals may have received associate degrees or certificates upon the completion of two years, but this was not a required prerequisite. These individuals may also have had more than two years of postsecondary education but have not been granted a bachelor's degree in accounting. The terms accounting technician, paraprofessional, or technical

accountant are used to describe a person who has received this level of educational preparation in accounting.

Summary

This study was undertaken to determine if individuals obtaining an associate degree have meaningful career paths open to them. In an effort to establish if such a career ladder existed, comparisons were made between two-year associate degree and four-year bachelor degree graduates to determine if differences existed in the hiring practices by employers. Included in this survey of employers were questions to determine what advancement opportunities were provided for accounting personnel.

Another survey instrument was directed to both two-year and four-year postsecondary accounting graduates to determine their educational preparation as well as the benefit these accountants have received from the completed accounting education. These two groups of accountants were also asked their current salaries. The accountants' opinions concerning employer hiring and promotional practices were also determined. The findings of this study may be helpful to employers, educators, and individuals who desire accounting as a career.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Efficiency, effectiveness, and job satisfaction as well as personal growth and development of an individual employed in the work force are aims of educators, businessmen, and workers. The chances of these three groups obtaining these goals at the same time are very unlikely. Selecting components or parts of these major goals and investigating them, however, would give an indication of how close these groups were to achieving such an ideal situation. An estimate of how much more work and effort must be expended to actually reach these objectives could perhaps then be made. Choosing one vocational area would further aid and speed up the investigative process. Subgoals such as hiring and promotional practices by employers, educational training and workers' views of personal benefits received from that education, as well as salaries and individuals' perceptions concerning upward mobility are examples of some of the subcategories that could be used.

Accounting is the vocational area of concern of the present investigation, and the present chapter is centered around the literature available dealing with the above mentioned ideas. Specifically, the following areas were

reviewed: forces affecting accounting, educational accounting levels, reasons for hiring paraprofessionals, reasons for not hiring paraprofessionals, and professional development and life-long learning. A brief summary of each of these general areas is presented in this chapter.

Forces affecting accounting today

Despite all of the research that has been completed in the past, and regardless of the information that is available today, constant updating and additional work must be undertaken to keep educators, businessmen, and all individuals aware of what is happening to and in our economy. As stated by Moore:

> The useful life-span of knowledge is growing shorter. The person completing a technical course today will suffer on the average, a loss of about 50 percent of his knowledge, and therefore his "know-how," within five to ten years. This assumes he works with his new skill and applies it regularly in his work. If he does not also return to the source of knowledge to keep up with the theory underlying the technique, he will be 50 percent "out of touch" within five to ten years. A chilling thought perhaps, but it describes the norm, the average situation (1973, p. 40).

Keeping current and knowledgeable is going to consume a great amount of time and effort on the part of the individuals in all occupations and at all occupational levels. Moore referred to the adage "nothing is so certain as change," and says it should be rewritten to

read, "nothing is so certain as an increasing rate of change." He further reports that the need to revitalize old skills and acquire new ones confronts many specialists, including accountants (1973, p. 39). Thus, not only are there greater pressures in society today for an individual to update and renew that knowledge, but even greater specialization is needed. According to Usry:

> Growing complexity of professional problems, rapid technological changes, a tendency toward a broader, less technical, concept of college education are some of the reasons for the increasing pressure on the accounting profession to assume a more prominent role in the education and training areas (1973, p. 90).

Further insight is given into this situation by Skousen when he writes:

> The extent of knowledge required in today's accounting profession is significantly expanded; it is not just technical knowledge, but an ability to deal with complex interrelationships between business, government and society.
>
> Accounting firms and CPAs in industry and government are spending a large amount of money in training programs. This in itself suggests that the formal educational process may be lacking and in need of modification. For example, new roles are being established for the audit function, new managerial concepts and techniques are being developed, new responsibilities are being placed on accountants and there is a greater need for specialization in such areas as tax and management advisory services.
>
> There is high employment turnover in public accounting and in industry, suggesting our students may not be fully aware of the

> climate, pressures and responsibilities of a professional accountant.
>
> Finally, there is a low rate of success of students in passing the entry-level professional examinations. This suggests that our students may not be as well prepared as they should be (1977, p. 55).

Both Usry and Skousen imply that schools appear to be lagging behind business and industrial needs. As a result, professional organizations, government, and business are attempting to provide additional training and education for their employees. In addition, unrealistic expectations of the job and of the duties and responsibilities needed by an accountant are apparently not being adequately presented to students in accounting departments at educational institutions.

On the other hand, educational institutions have attempted to carefully define their role for teaching students who will enter the work force at different levels and with varying abilities. These educational institutions have developed a rather specific terminology in relation to the accounting profession.

Educational accounting levels

Accounting education has perhaps been prematurely divided into specific levels and labeled according to the number of courses completed by students instead of according to industrial and business needs. By so

categorizing, however, a clear breakdown is provided and order is brought to the educational setting.

Titles and labels can be tremendously helpful in referring to different levels of employment as well as different educational preparation. Business and industry, according to Skousen and Usry, however, have not been able to define and fit their needs into the same mold as the theoretical educational structure. Even the educational institutions have had somewhat of a struggle as Popham, Schrag and Blockhus report concerning the secondary level:

> Historically, no other single area of business education has had students with as diverse aptitudes and interests as accounting. For this reason many schools have stratified their offerings, using the course title of accounting, bookkeeping, and record-keeping. Theoretically, these titles provide a logical basis for developing student competencies, but problems have ensued. Frequently, this practice has led to frustration, for students recognize the labels and fear that enrolling in a lower-level course may label them as slow learners. In an effort to overcome this stigma, Stewart provided a more flexible plan by offering a three-level spectrum. A student could begin at the lowest level and progress as far as he or she desired; or possibly a student with sufficient interest and ability might enter at either of the two higher levels and progress upward (1975, p. 278).

In spite of this tracking or stigma, there is still a theme running throughout accounting literature that allows for a stratification of accounting preparation.

The lowest rung on the accounting career ladder is the individual who has had no previous training and yet is hired by business for work in the financial area. Generally, such a person is given on-the-job training in accounts payable, accounts receivable, or some such routine and rather repetitive type of job. A student with some high school courses in accounting/bookkeeping generally falls into this category also. According to Boynton:

> Record Keeping. Under this term is classified the work of posting clerks or entry bookkeepers, payroll clerks, clerks who fill out forms, clerks who take a number from one form or column and place it in another column or another form. In the main, such persons usually are dealing with parts or segments of the bookkeeping cycle. Many, if not most, of such office workers need not understand the other functions of the bookkeeping cycle in order to do their job and earn their salary, although as much understanding of the total bookkeeping process as possible is desirable from the point of view of enabling such workers to advance and appreciate the part they play in their job. If a serious attempt is ever made to standardize the classification of such workers, the term junior bookkeeper might be considered for a worker who performs such routine, segmentary bookkeeping duties (1955, p. 7).

Boynton refers to the term "junior" here in the sense that the position is a beginning one--a job entry level position. However, as time passes and experiences increase, there is the possibility of some upward movement.

Boynton also gives a very broad definition of bookkeeping as "the art or practice of keeping a systematic record of business transactions (1955, p. 7)." He then defines the next position in the financial area as follows:

> Bookkeeping. Under this term is classed the work of office employees who are concerned with the whole or the major picture of a firm's business transactions--not just the parts. For example, in addition to understanding and being able to handle any of the segments described above under record keeping, these employees should have the ability to maintain journals and ledgers, take a trial balance, make adjusting entries, balance, rule and close accounts, and prepare necessary statements or reports that reflect the condition of the business. While some firms employ public or private accountants and do not require their bookkeepers to perform all of these duties, all-round bookkeepers should have an understanding of the bookkeeping cycle and the principles underlying the records needed for completing this cycle--records necessary to show (1) what the firm is worth (the balance sheet) and (2) how it got that way (the profit and loss statement). These all-round bookkeepers could be labeled senior bookkeepers (1955, pp. 7-8).

The highest level an individual could reach without additional postsecondary education and knowledge would be the bookkeeper or perhaps senior bookkeeper. Since that is as far as high school training will take an individual, the educational preparation provided by the postsecondary institutions logically provides preparation for the next accounting level. The students

with the additional two-year's education have been given several different titles. Pofahl suggests:

> . . . the Greek word "para" means "besides"--i.e., a paraprofessional such as a paramedic or paralegal or one who works beside a professional (1977, p. 44).

Another definition given to this level is presented by Kiefer as follows:

> . . . the paraprofessional in public accounting is the one whose qualifications at entrance employment would consist of two years of college with a large concentration of those in accounting, with or without experience (1975, p. 73).

Loeb and Rymer give additional meaning to this term when they report:

> A paraprofessional might have one of a variety of educational backgrounds. For example, he might be a high school graduate, a junior college graduate or a commercial business school graduate, or he may have attended college for one or two years (1973, p. 44).

It is interesting to note that Kiefer further reports:

> In reviewing the civil service qualifications for various accounting-type positions, it is found that the term paraprofessional is not used. Instead, one finds descriptions of positions to be filled by persons having two years of post-high school education with emphasis in accounting who utilize accounting methods and techniques of the type normally associated with an established double-entry accounting system. The federal government has been calling these individuals "accounting technicians" (1975, p. 73).

Thus, the term paraprofessional and accounting technician refer to the two-year postsecondary prepared individual. Nowhere in the literature could the term junior accountant be found to refer to the two-year educationally prepared individual. The term junior generally carries the connotation of being able to advance eventually into a higher position. However, according to the available literature, the accounting paraprofessional or accounting technician is generally not promoted into the ranks of the professional area without additional education. It is appropriate then that the term junior not be found in reference to the two-year educationally prepared students.

The four-year bachelor's degree level is the beginning point of what is considered the professional area of accounting. The definition of accountant given by Boynton is as follows:

> Accountant. Here we move into a professional field made up of persons who have been trained to interpret (to a higher degree than the senior bookkeeper) the meaning of business transactions and bookkeeping records, to audit accounts and records, to advise and supply help in systematizing the kinds of accounts, forms, books, and records best suited for individual businesses. Here we also have specialists trained in various fields such as estate accounting, tax accounting, cost accounting, and municipal or governmental accounting (1955, p. 8).

At this educational level the job-entry position can and is sometimes referred to as a staff or junior accountant. The educational requirements for moving up on the career ladder have been met, and thus, additional upward mobility is available to these individuals.

The federal government uses a similar breakdown of positions, occasionally using different terms, as was alluded to by Kiefer. According to the U. S. Bureau of Labor Statistics' National Survey of Professional, Administrative, Technical, and Clerical Pay, March, 1978, bulletin, an extensive appendix is included which contains information including a complete governmental breakdown of accounting positions. Two positions in the accounting clerk area--Clerk, Accounting I, and Clerk, Accounting II--are given.

These governmental titles appear to be comparable to those found in the accounting literature dealing with individuals with no accounting background or high school graduates as well as the technical or paraprofessional two-year college graduate.

At the professional level, the governmental breakdown divides accountants into two separate groups--accountants and auditors. Accountants have five different levels and auditors four. This certainly provides for upward mobility even at the professional level. Included

also with the various stratifications of positions at the professional level is an indication of the degree of authority and responsibility that accompanies the particular position as well as a measure of the magnitude of the technical complexity of each particular position.

The employment of the two-year college graduates or paraprofessional accountants is one of the major focal points of the present research. Recent literature contains both positive and negative aspects of dealing with the employment of the paraprofessional.

Reasons for hiring paraprofessionals

Most authors imply that there is a place for the paraprofessional. According to Kiefer:

> The paraprofessional can help solve the problems that exist in the public accounting firm created by the misuse of accounting talent and the shortage of qualified professional accountants (1975, p. 75).

Loeb, furthermore, states:

> It is . . . thought that accounting paraprofessionals would increase the manpower sources on which CPA firms can draw. By hiring paraprofessionals, firms would be less likely to experience manpower shortages (1973, p. 44).

Loeb continues by reporting on a survey concerning paraprofessionals that was conducted. He declares that a majority of the respondents agreed that there is a growing need in the accounting profession for the use of paraprofessionals (1973, p. 47).

The use of paraprofessionals has been recommended for professional accounting services in order to reduce staff costs. This, in turn, might reduce billing costs to clients. According to Loeb (1973, p. 44), ". . . the billing rate for paraprofessionals were 30 to 40 percent less than the starting salary and billing rate for junior accountants." However, it is also interesting to note that Freeman cautions businesses in using paraprofessionals and writes, ". . . care must be taken to insure that the costs of supervising a paraprofessional do not offset the salary savings (1971, p. 678)." Kiefer (1975, pp. 75-76) also stresses this cost saving factor as a reason for the employment of the accounting technician.

Another inducement toward the hiring and use of paraprofessionals was reported in an article entitled "Should You Have a Paraprofessional?" It was reported in this article that a technical accountant could handle routine clerical tasks thus freeing the professional staff for more technically complex work (1977, p. 28). Loeb reinforces this use of the two-year graduate by writing ". . . a paraprofessional might be better at performing jobs that are repetitive and routine in nature (1973, p. 44)."

A reduction in the turnover rate in the professional staff might result when paraprofessionals are hired.

This idea was expressed by both Loeb (1973, p. 44) and in an article published in the Practical Accountant (1977, p. 28). Loeb expresses it this way: "Some young professional accountants dislike performing the more routine tasks that a junior accountant is called upon to perform (1973, p. 44)." Thus, because some of the routine and less interesting items are handled by the paraprofessional, the junior level of the professional accountants are able to maintain more interest and a higher enthusiasm for their positions. These junior accountants are challenged by different problems and confronted with new situations.

Another possible reason for the employment of paraprofessionals is to provide the junior accountant with the opportunities for supervisory and managerial development. As junior accountants move up the career ladder, they need to develop supervision skills. By assigning these junior accountants the responsibility of supervising the paraprofessional, they are provided with an excellent training opportunity.

Reasons for not hiring paraprofessionals

There are several reasons that can be found in the literature that indicate care and caution need to be taken in the hiring and use of paraprofessionals.

According to Kiefer:

> The attitude problem is perhaps the greatest hurdle that the paraprofessional will face in public accounting. . . . findings seem to indicate that many accountants have an adverse opinion toward the employment of paraprofessionals (1975, p. 74).

Pofahl, on the other hand, reasons that:

> One of the loudest complaints about paraprofessionals in CPA firms is that they are not sufficiently trained and that they require an excess of supervision (1977, p. 44).

Kiefer further reports that:

> Perhaps the greatest obstacle faced by paraprofessionals is the attitude of many practitioners that the employment of paraprofessionals would result in a violation of auditing standards (1977, p. 30).

A suggestion to overcome this obstacle is contained in an article in the Practical Accountant where it is found:

> . . . substantially all of the paraprofessional's work will require supervision by a professional staff member in accordance with the maintenance of sound professional standards. These high standards must be maintained; the fact that a paraprofessional is involved in some of the work will not be a justification for reducing these standards (1977, p. 28).

Moore expresses a concern that a sub-professional category may evolve and become a permanent position when hiring and working with the two-year graduate. He reports:

> I hope we will avoid creating a large, lower-level structure of permanence which would change significantly the highly charged, self-development attitudes of our professional staffs. Talent should be acknowledged and encouraged to grow. Paraprofessionals, better called pre-professionals if they must have a label, should be encouraged and assisted to become part of the professional staff (1973, p. 45).

This idea received further impetus in the article, "Should You Have a Paraprofessional?" In this article, it was stated:

> It seems that the greatest potential problem of using paraprofessionals is the possible creation of a "caste" system. This problem is particularly acute where the para-professional and newly hired professional are doing virtually the same job, with the para-professional being paid at a lower rate (1977, p. 27).

Additional statements in the Practical Accountant are given on ways to possibly alleviate this "dead-end" situation for paraprofessionals. It was suggested that advancement opportunities within the technical group be made available. Further, formal educational programs should be considered for this level of employee as well as carefully avoiding any distinctions with regard to personnel policies, vacation structure, participation in firm activities, timing of salary increases, and perhaps even by job titles that are assigned (1977, p. 29).

Moore, in considering these same ideas suggests:

> There is considerable unrest today in many parts of society over the design and structuring of jobs which are meaningless, totally routine, even dehumanizing. The goal of efficiency may be attained at the terrible price of destroying individual initiative, motivation, and self respect (1973, p. 45).

He further writes:

> . . . we must ask ourselves what will be the reaction of minorities to the creation of a subprofessional category at the same time we are undertaking affirmative action programs to bring minorities into the professional ranks (1973, p. 45).

An additional reason that is reported in the literature as a discouragement to the development and hiring of the accounting paraprofessional is reported by Schmitz and Jacobs: "By introducing paraprofessionals into public accounting, we will be undermining the very system we rely upon to develop the experience of beginning CPAs (1977, p. 40)." Apparently more routine and repetitive activities are excellent to use while any new employee is adjusting to a position and becoming familiar with the demands of that position. If permanent paraprofessionals are placed in positions that assume all of these types of activities, the work adjustment for the junior professional as well as the needed on-the-job experience these activites provide will no longer be available.

Loeb (1975, p. 44) also emphasizes the fact that when both a paraprofessional and a young professional accountant perform similar tasks on the same engagement, some serious "human relations" problems could result. This is particularly true where there are differences in pay, prestige, and authority.

Loeb (1973, p. 44) further reports that there exists a problem of job differentiation or job distinction which needs to be made before paraprofessionals are hired. Not only that, but those who supervise paraprofessionals need to be extremely familiar with all phases and facets of a job in order to supervise it properly. If supervision is allotted to professionals and the routine and repetitive work to the paraprofessional, there will be no opportunity for the professional to gain experience and familiarity with the very positions that these supervisors oversee and for which they are responsible.

Another possible problem that could result is the fact that paraprofessionals are recruited from high schools, junior colleges, and business schools offering associate degrees. Loeb (1973, p. 48) points out that there may be some problems in that extensive use of paraprofessionals might actually result in a reduction in the demand for university graduates.

Professional development and life-long learning

Regardless of the position or the level of complexity of an accounting position, currency and updating are needed and important. Generally, this updating of skill and knowledge is referred to as professional development. West (1973, pp. 176-181), in his study concerning entry-level bookkeeping positions, reports that entry-level accounting employees perform extremely narrow job duties. However, a number of these workers took postsecondary courses to improve and expand their knowledge. Apparently the employee who senses a need for additional training seeks it. This is in keeping with the concept of continuing education and/or professional development even at the job-entry level.

According to Keller (1969, pp. 15-16), there is a general trend toward an increase in educational requirements for the accountant. Concerning more education for accountants, Horn, another writer, states:

> It is interesting to note that as more graduate schools come into existence and employers demands for the graduate degree increased, more and more prospective accountants enrolled in graduate schools and there now is a steady flow of these graduates into the field of accounting (1973, p. 65).

Benson reports:

> Academic specialization on the graduate level in business school is assumed to develop

> higher proficiency and lead to superior job opportunities. Expertise acquired on the graduate level should be of greater value for job placement than expertise acquired on the undergraduate level (1976, p. 74).

He explains himself further and states:

> The graduate business degree holder appears to be hired for managerial potential whereas the bachelor business degree holder is evaluated more for immediate usefulness in filling existing vacancies (1976, p. 77).

Because of increased prestige, the variety of work that is available at the higher job levels, and the larger salaries earned, upward mobility becomes a goal of most employees. Many authors of accounting articles express the idea that much of the additional education and knowledge needed in order to move up the career ladder can be obtained through professional development. According to Usry:

> Professional development must be defined in broad dimensions because it covers a wide spectrum of technical and nontechnical subjects and encompasses on the job training, self-study and individual activities, and formal training programs both internal to a firm and external (1973, p. 89).

Moore reports that "We all need continuing education (1973, p. 40)." He further explains that:

> . . . a firm's professional development programs have the potential to reach and influence people more profoundly than any other form of firm communication (1973, p. 45).

In addition, Moore feels that "Although the firms must provide an encouraging, receptive environment for continuing professional development throughout a career, the individual must learn to take the initiative for his learning (1974, p. 42)." Usry also writes that much support can and should come from an individual's firm (1973, p. 90).

Because greater education appears to be one of the major keys for upward movement in a career, it is interesting the philosophy that is becoming apparent in the attitude that this education does not have to be obtained all at once, but that it can be a life-long process.

According to the Carnegie Commission on Higher Education:

> College today . . . is one of the many sources of knowledge and less a rare and one-time opportunity. The approach need not be as it once was: everything now and never again . . . Rather than long-extended formal education in advance, more jobs require some basic skills and knowledge in advance and then a willingness to keep on learning and . . . opportunities to learn. Some occupations and professions . . . now require, and will increasingly require, periodic formal updating of knowledge . . . . Thus it would seem wise to space formal education over the lifetime, reducing the amount of time spent on it early in life, and spending additional time on formal education later in life (1971, p. 53).

It has become an accepted fact that many professions do require their members to update their certificates and memberships by gaining additional education and training. This is becoming the case in the area of accounting. According to Moore:

> Many firms are already at the level of 100-plus hours of formal education per individual annually. Continued education in a few states is now a requirement (1973, p. 41).

Moore further predicts that in the future:

> I think individuals will spend 5 to 10 percent of their time in professional development. Not counting the opportunity cost (lost billings) or even the salary cost of this time, firms will spend roughly 2 to 3 percent of their gross revenues for out-of-pocket expenses related to education (1973, p. 41).

Not only then is it necessary for individuals at the job-entry level to increase and improve their skills, but even those individuals who are well up the career ladder need to renew and reacquaint themselves with current practices and trends in the area of their expertise. Moore also reports that "Society in general, as well as the accounting profession, will allocate a greater proportion of resources to continuing education rather than to preparatory education (1973, p. 40)."

According to Usry, professional development should be directed to:

1. Aiding the new staff member in his transition from the academic to the real-world environment.

2. Developing the staff member in technical and nontechnical applied areas with emphasis on professional service and including administrative skills.

3. Updating the staff member concerning new developments in knowledge, concepts and methods (1973, p. 90).

At the paraprofessional level, there is a philosophy concerning professional development as expressed by Kiefer that:

> . . . with continued training, by taking evening courses, or possibly through a university/firm cooperative arrangement, the individual can grow into a competent professional accountant . . . (1975, p. 73).

In addition, Kiefer goes on to report that "An overwhelming number of public accountants are in favor of the paraprofessional continuing his education and training (1975, p. 73)." Kiefer puts forth the idea that:

> Possibly, the best approach for the public accounting firm and the paraprofessional is to consider this position as a starting point in the individual's career. With additional training and experiences, the employee can take on more challenging activities as his growth and maturity progress (1973, p. 73).

As the need for more types of professional development programs grow and as more individuals take advantage of this type of opportunity for upward mobility, it was suggested in the "Report of the Committee on Junior

(Community) College Curriculum" that:

> There is considerable evidence that the community college is emerging as a center for continuing education, designed to meet the interests of the adult community throughout their lives . . . . Community colleges may also become a center for shorter professional development courses in accounting (1973, p. 39).

Thus, even though the two-year postsecondary institutions at the present time are the main source of paraprofessional accounting level employees, in the future this institution may become the center of most of the professional development programs that are offered for all levels of accountants in the field.

Summary

Because of the explosion of knowledge, there is constant need for continual research and follow-up of educational and industrial practices. This is particularly true in all areas of specialization such as accounting. Industry and business have certain needs and requirements that must be met by the people they employ. Educational institutions, however, have not been able to meet these needs completely as they educate and train students who will become these employees. On the other hand, educational institutions have developed a hierarchial structure of preparation that theoretically prepares students desiring careers in accounting. These

institutions have done this in an attempt to better meet business demands.

In addition to the differences between educational results and business needs, there appears to be a distinct dichotomy in the upward mobility of accounting employees. This break occurs between the positions defined as paraprofessional (two-year college graduates) and professional (four-year university graduates). Because of this division, reasons to employ or not employ the paraprofessional were reported. Even though this dichotomy exists, possible career advancement is possible through professional development and additional education. In fact, some authorities advocate that learning should be considered a life-long process and constant updating should be a concern of all individuals, not just the paraprofessional.

CHAPTER III

METHODS AND PROCEDURES

The methods and procedures used in the collection of the data for this study are described in this chapter. Identification of the population, the rationale for the instruments used, the pilot study, the sampling techniques, and the procedures used in the processing of the data are discussed.

Identification of the population

There were three separate groups to be contacted in the present research study. The first group was employers doing business along the Wasatch Front area within the State of Utah who had businesses with a net worth of $500,000 or more. The second and third groups were accountants working full-time for these businesses. The accountants were to be divided into two groups, according to their educational background and training. Only those accountants obtaining their educational preparation after 1969 were to be included. Those accountants who had obtained a four-year university degree were considered as one group, and those who had

had at least two years of education beyond high school but less than a bachelor's degree were the other group considered.

Private businesses within the state of Utah that met this $500,000 and over net worth figure were listed in two directories published by Dun and Bradstreet, Inc., known as the Middle Market Directory, 1978, and the Million Dollar Directory, 1978. The Wasatch Front area was selected as the geographical area from which the data were collected because 83 percent of the businesses that have a net worth of $500,000 or more within the state were concentrated within this area. Since a personal interview was the data gathering technique used, this smaller area expedited the collection of the data. Furthermore, private businesses that fit into this net worth figure were still amply represented.

There were 595 private businesses listed in these two directories--307 of which were listed in the Million Dollar Directory and 288 listed within the Middle Market Directory. Of these, 235 and 259 businesses were located along the Wasatch Front area which included the following cities: Bountiful, Centerville, Clearfield, Draper, Farmington, Kaysville, Layton, Magna, Midvale, North Salt Lake, Ogden, Orem, Pleasant Grove, Riverton, Roy, Salt Lake City, Sandy, Springville, West Jordan, and Woods Cross.

The total number of businesses in this net worth category located along the Wasatch Front area from which the sample was taken numbered 494. See Table I.

Table 1. Businesses within the state of Utah with $500,000 or more net worth and those located along the Wasatch Front.

Directory	Wasatch Front	Entire State
Middle Market Directory	235	288
Million Dollar Directory	259	307
Total	494	595

Design of the instruments

In order that the same information would be obtained from each individual interviewed, two instruments were designed and used in the study. The first instrument was used to obtain information from employers. The second instrument was completed during the interview with the accountants.

Information from employers concerning the employment of accountants. Because advancement opportunities depend a great deal upon the employer and how he views the capability of individuals that he employs, an instrument

designed to gain data about those views concerning the graduates of two-year and four-year programs was constructed. Because every employer hired both educational levels of accountants, he was able to respond to questions concerning both groups and then a comparison of his attitude toward each group was made. Through this comparison, a determination could be made as to whether or not the employer himself had a bias about either group of employees. If the employer did treat the employees differently, the lack of upward career movement for either group could be partially explained through employer attitude.

On the other hand, the employer may have had confidence in both groups of employees but realized the economic benefits that were available because of a possible difference in salaries that were paid to the two educational levels of employees. Thus, salary was included and made a part of hypothesis one.

The instrument was divided into four sections. The first section was designed to obtain the needed information concerning the actual number of accounting two-year and four-year educationally prepared employees currently working in the business. Section II was to be completed by the employer keeping in mind those accountants who had obtained a four-year university degree.

In Section III, identical questions to those listed in Section II were included so that the employer could respond concerning only two-year college graduates currently working for the company. Section IV was inserted to allow an easy way for the employer to list the names of the full-time accountants and indicate which had completed four-year university degrees.

Information from accountants on-the-job. This instrument was constructed by the researcher. Promotions given to employees can sometimes be affected by the attitude of the employee himself. If an employee has confidence, feels he is prepared for the job, and views himself as important and necessary to the company and business in which he is employed; this employee may exert greater effort to increase his value and importance to the company. On the other hand, the opposite situation may also exist. If the employee feels that he is being discriminated against and not treated as a person with value, his attitude will be reflected in the work that he produces. Thus, the instrument directed to the accountant himself was designed to collect data concerning his educational background, his opinion of how well the particular courses taken had prepared him for his current position, and how he viewed certain company practices. Comparisons were than made between the two

educational levels to determine where differences between the two groups existed.

This instrument was divided into two sections. The first section was designed to obtain the courses and educational background of the individual completing the form. All course catalogs printed by the various postsecondary institutions within the state of Utah were examined. A literature search was also made in order to obtain the list of courses included in this particular section.

This section was designed so that the respondent could also indicate how beneficial the particular accounting courses had been in connection with his current full-time accounting position.

Section II contained questions pertaining to current salaries being earned by the accountants on the job as well as their views about employer hiring and promotional policies.

Pilot study

A pilot study was conducted using the businesses listed in the Million Dollar Directory and the Middle Market Directory located in Logan, Utah. This community is geographically contiguous to the Wasatch Front area. These businesses were assumed to be similar to other

businesses along the Wasatch Front that fall into the $500,000 or over net worth category. There were 17 businesses listed in these two directories that had their base in Logan. All of these 17 businesses were contacted and input from these businesses was used to refine and improve the interview instruments.

Sampling techniques

Using a table of random numbers, a sample of private businesses was drawn from the list of the 494 companies doing business along the Wasatch Front area of the state of Utah. These businesses were then contacted to gather the desired data.

A sample of businesses that was drawn was contacted first by telephone to obtain the cooperation of the employer and to set up an appointment for an interview. The dialogue used for this initial telephone contact has been included in Appendix A.

At the interview with the employer, permission was obtained to contact and talk with full-time accountants. The names of these employees were obtained from the employer along with an indication of which of the employees held four-year university degrees. The accountants included on this list not specifically noted

as having a four-year university degree were considered those accountants making up the paraprofessional group.

Only employers who hired both two-year and four-year accounting graduates were used in the study. Two hundred sixty-two businesses were contacted. During this initial telephone contact, an attempt was made to determine if the business did employ accountants with academic backgrounds fitting into both educational categories. Because it was sometimes difficult for the employers to know immediately whether they did employ accountants that fell into both categories and were willing to cooperate in this study, 56 appointments were made. Interviews were held with these 56 employers (See Appendix B). Of these 56 employers interviewed, only 39 of them did employ both four-year and two-year accountants and were included in this study.

After the employer interview, telephone contact was made to accountants from these businesses and an appointment made. One hundred forty-six accountants were interviewed. Not all of these accountants, however, met the desired educational criteria or they had obtained their education prior to 1970 and could not be included. Thus, only 43 four-year university graduates and 43 accountants having at least two years of postsecondary education from the 146 interviewed were included in the study.

Analysis of data

An analysis of data were made as follows:

Hypothesis one. There will be no significant differences in the hiring practices by employers of the two-year and four-year accounting educated individuals.

Specific information obtained for hypothesis one was:

a. Would you hire a graduate with no previous work experience?

   If yes, at what approximate starting salary?

b. Were graduates adequately prepared to handle the positions to which they were assigned?

   If yes, in what areas were they especially well qualified?

c. Were graduates in need of additional education in certain areas?

   If yes, in what areas should greater attention be given?

d. Would an accounting internship be beneficial?

   Would you be willing to have students work with your company?

Analysis of this hypothesis involved the above four subsections listed. The data for analyses were taken from Section I, questions one through four of Section II, and questions eleven through fourteen of Section III of the employer instrument.

Subsection a -- Would you hire a graduate with no previous work experience?--was analyzed using chi square.

The "yes" alternative of this question dealing with the approximate starting monthly salary paid to the individuals from these two different educational levels was analyzed using an analysis of variance.

Subsections b, c, and d were all analyzed using chi square. A listing of percentages for all "yes/no" responses for this hypothesis was also included.

Hypothesis two. There will be no significant difference in employer promotional practices for the two-year and four-year accounting educated individuals.

Specific information obtained for hypothesis two was:

a. Do you require employees to attend any workshops and so forth?

   If yes, what programs are required?

b. Does your company assist employees financially to upgrade accounting knowledge?

   If yes, what kind of assistance is given?

c. Does your company subscribe to magazines for the accounting department?

   If yes, which magazines?

d. Would additional education increase an employee's chances for promotion?

   If yes, what kind of educational programs are acceptable?

e. Does the company have an amount of money that is granted with a promotion?

   If yes, approximately how much?

f. Does your company have a policy concerning advancement?

If yes, what job titles are used?

Analysis of this hypothesis involved the above six subsections. The data for the analyses were taken from Section I, questions five through ten of Section II, and questions fifteen through twenty of Section III of the employer instrument.

Subsections a, b, c, and d, concerning attendance at workshops, financial assistance, magazines provided, and possible promotional opportunities were analyzed using chi square. Subsection e--money granted with a promotion--was analyzed using chi square. The "yes" alternative of this question concerning an actual dollar amount was analyzed using a one-way analysis of variance. Subsection f referring to company policy of advancement of newly hired accounting personnel was analyzed using chi square. The job titles requested was a listing question and the information was presented by displaying the information in a table format. Once again, a listing of percentages for all "yes/no" responses for this hypothesis was also included.

Hypothesis three. There will be no significant difference in the accounting educational programs taken by two-year and four-year accounting students.

Section I of the employee instrument gave a listing of possible courses taken by all accountants. A chi square was computed for each course to determine if differences did exist between the two-year and four-year educational programs taken by the accountants. A percentage listing was also made of all the "yes/no" responses collected.

Hypothesis four. There will be no significant difference between two-year and four-year accounting graduates in the way they view the benefits that they have received from their educational programs.

Section I of the employee instrument allowed each accountant to evaluate each course taken by determining if they were of "Great Benefit," "Some Benefit," or of "No Benefit," in their current full-time accounting position. A one-way analysis of variance was calculated for each course listed to determine if there were differences between these two groups.

Hypothesis five. There will be no significant difference in salaries currently being earned between two-year and four-year educationally prepared individuals.

Data from Section II, question two, of the employee instrument was analyzed so that the decision to either accept or reject this hypothesis was made. This

question was analyzed using a one-way analysis of variance.

Hypothesis six. There will be no significant difference concerning hiring and promotional practices of employers as viewed by two-year associate degree and/or certificate individuals and four-year bachelor degree university graduates.

Specific information obtained for hypothesis six was:

a. How long have you been employed by your current employer?

b. What is the length of time you have been working in your present position?

c. Have you held any other accounting position in this company?

   If yes, give title and salary.

   If no, was this your first position upon graduation, or did you transfer to this company?

d. Will you be promoted if you continue working for this company?

   If yes, what will be your job title?

   How long before such a promotion will become available?

   If no, why won't a promotion become available to you?

e. Would additional education increase your chances for promotion?

   If yes, what kind of education is acceptable?

f. Does your company have a policy concerning the amount of money granted with a promotion?

   If yes, approximately how much?

g. Does your company have a specific policy concerning advancement?

   If yes, what are the job titles used?

h. Would your company hire a graduate with no previous work experience?

   If yes, what would be the starting salary?

i. Were you adequately prepared by your education for your position?

   If yes, in what areas were you especially well qualified?

j. Did you need additional education in certain areas?

   If yes, what were they?

k. Would an accounting internship have been beneficial?

   Would you have been willing to work while at school?

l. Does your company require you to attend any workshops, and so on?

   If yes, what programs are required?

m. Does your company assist financially to up-grade accounting knowledge?

   If yes, how is this assistance given?

n. Does your company subscribe to magazines for the accounting department?

   If yes, what magazines?

Analysis of this hypothesis involved the above fourteen subsections. The data for analyses were taken

from Section II, questions three through sixteen of the employee questionnaire.

Subsections a and b concerning length of time employed in a current position and the length of time employed by the company were analyzed using a one-way analysis of variance.

Subsection c concerning any other accounting related positions held by the same company was analyzed using chi square. The "yes" and "no" portions of this question were descriptive in nature and the information was simply listed and presented in table format.

Subsection d regarding the possibility of being promoted into another position as well as the "no" portion of this question was analyzed using chi square. The options provided under the "yes" area were presented in table format and were simply a listing of information obtained.

Subsection e was analyzed using chi square. This item was concerned with the possibility that additional education might increase promotional opportunities as well as the kind of education acceptable to the company.

Subsection f dealt with company policy established concerning a predetermined per year amount of money that was granted with possible promotions. The main question was analyzed using chi square and the approximate dollar

yearly increase was analyzed using a one-way analysis of variance.

Subsection g was analyzed using chi square. The possible job titles used by the various companies was presented in table format and was simply a listing of the information obtained.

Subsection h was analyzed using chi square for the main question. The approximate starting monthly gross salary of newly hired accounting personnel was analyzed using a one-way analysis of variance.

Subsections i, j, k, l, m, and n were all analyzed using chi square. These subsections were included to obtain the data desired dealing with areas of adequate preparation by educational institutions, areas where additional preparation at the educational institutions would have been helpful, the willingness of these employees to taken an internship program during their school days, company policy requiring attendance at professional development programs, financial assistance made available to employees when attempting to upgrade accounting knowledge and skill, and the kinds of literature provided to the accounting department by the employer.

A percentage listing of all "yes/no" responses obtained by the data gathering process was included in table format.

The .05 level of significance was used in calculating all values. At least some results obtained in the analyses would have been significant by chance alone. This possibility needs to be remembered and taken into account in evaluating and interpreting each hypothesis.

Summary

In this chapter, information dealing with the methods and procedures followed by the researcher in obtaining the data was presented. Also, the plan to be followed in analyzing the data required to respond to the null hypotheses under investigation was outlined.

Through the use of the Middle Market Directory and the Million Dollar Directory, a listing of businesses with a net worth of $500,000 or over was obtained from which a random sample of businesses was made. Through the use of the interview technique, data was obtained from employers concerning their hiring and promotional practices. Two-year and four-year educationally prepared accountants were also personally contacted. Data concerning the benefit they received from their schooling, their current salaries, as well as how they view employer hiring and promotional practices were obtained. Statistical procedures used in analyzing the data were chi square and analysis of variance.

CHAPTER IV

FINDINGS

The data for this chapter were obtained from interviews conducted with accountants and employers. The companies for whom these individuals worked were listed in Dun and Bradstreet's Middle Market Directory and Million Dollar Directory. A random sample of the companies listed in these two directories was drawn. The companies were contacted by telephone to determine if both two-year associate degree accounting graduates and four-year bachelor's degree accounting graduates were employed by the company. If the company employed two-year and four-year graduates, an appointment was made and interviews were conducted with the employer and at least one of the full-time accounting employees.

A questionnaire form had been designed and was used during the interview. Needed information for analyses and comparisons was collected from each company. Any other information that the interviewed individuals were willing to share with the interviewer was also gathered.

Appropriate inferential and descriptive statistics were used. For the purpose of imparting the findings,

each hypothesis will be reported in the order of original presentation in Chapter One.

Analyses of hypothesis one

Information for the analyses of this hypothesis was taken from the employer questionnaire.

Hypothesis one: There will be no significant difference in the hiring practices by employers of the two-year and four-year accounting educated individuals.

The information for analyses of the above stated hypothesis was obtained from Section I, questions one through four of Section II, and questions eleven through fourteen of Section III of the employer questionnaire.

Section I of the employers' questionnaire was designed to obtain the number of full-time two-year and four-year accounting employees currently working for the company. Because the Middle Market Directory and Million Dollar Directory list only companies having a net worth of $500,000 or more, it was entirely possible that the number of office workers in the accounting area could vary greatly from company to company. If there was a wide discrepancy in the number of two-year and four-year accountants working in the various companies, specific company policy might have been established which would have dictated employer action. An analysis

of variance using a random block design was calculated to determine if there was a significant difference in the number of two-year and four-year accountants currently employed (See Table 2).

Table 2. An analysis of variance for the number of two-year and four-year accountants employed by businesses full-time.

Source	df	Sum of Squares	Mean Square	F*
Total	77	1480.718		
Company	38	1219.718		
Educational Level	1	10.051	10.051	1.522
Error	38	250.949	6.604	

*At α = .05 level; F = 4.10

	Mean	SE**
Four-year graduates	3.51	.4115
Two-year graduates	4.23	

**$SE_{\bar{X}_1} = \sqrt{\frac{MSE}{M_i}}$ (This same formula was used throughout the study in determining the standard error.)

The mean or average number of four-year accounting graduates employed by the contacted firms was 3.51. The mean for the two-year accounting graduates was slightly larger--4.23. Since the F value was not significant, it was assumed that there was not a significant difference in the number of two-year and four-year accountants employed.

Subsection a of hypothesis one was:

a. Would you hire a graduate without previous work experience?

If yes, at what approximate starting salary?

The information for response to this question was gathered by the employer instrument. Section II, question one and Section II, question eleven contained the employer responses to this query. Only the employers from two of the thirty-nine companies--approximately five percent--indicated that they would not hire graduates from accounting programs immediately upon graduation unless they did have some previous work experience. A chi square analysis was to be made of the "yes/no" portion of this question, but the responses were identical for both groups making such an analysis unnecessary (See Table 3).

The approximate starting monthly salary for new employees was obtained. An analysis of variance using a random block design was calculated. This was done to determine if there was a significant difference in the salary that would be offered to a two-year and a four-year accounting graduate (See Table 4).

The F value obtained in the calculation of this analysis of variance was significant. In other words, the salary that would be offered to the two-year graduate would be different than that paid to a four-year accounting graduate. As can be seen from Table 4, the

Table 3. A listing of the percentage of "yes" and "no" responses as well as chi square values for employer responses for both two-year and four-year accountants concerning employer hiring practices.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
1, and 11	Would you hire a graduate without previous work experience?	95	5	95	5	--	--
2, and 12	Were graduates hired adequately prepared?	87	13	92	8	.46	.06
	Routine accounting tasks	65	35	79	21	1.18	--
	Detailed and difficult accounting tasks	31	69	13	88	2.71	3.94*
	Accounting Theory and principles	58	42	25	75	5.48*	--
	Computer work in accounting area	19	81	17	83	.06	.37
	Human relations skills	8	92	4	96	.28	1.26
	Management duties	12	88	4	96	.92	2.20
	Calculators and other office machines	46	54	50	50	.07	--
	Organization of time and priority determination	12	88	4	96	.92	2.20

Table 3 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
	Other	12	88	8	92	.14	.71
3, and 13	Did graduates need additional education in certain areas?	89	11	86	14	.16	.65
	Routine accounting tasks	20	80	21	79	.01	--
	Detailed and difficult accounting tasks	32	68	46	54	.99	--
	Accounting theory and principles	12	88	25	75	1.38	.65
	Computer work in accounting area	32	68	29	71	.05	--
	Human relations skills	32	68	17	83	1.56	2.50
	Management duties	36	64	25	75	.70	--
	Calculators and other office machines	16	84	13	87	.12	.58
	Communication skills	40	60	38	62	.03	--
	Organization of time and priority determination	28	72	29	71	.01	--

Table 3 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
	Other	12	88	4	96	1.00	2.32
4, and 14	Would an accounting internship be helpful for a graduate to have?	95	5	95	5	--	--
	Would you be willing to provide a work station for an internship program?	51	49	61	39	.58	--

*At α = .05 level, critical value of χ^2 = 3.84.

[1]All chi squares were recalculated using Yates' Correction for Continuity whenever a cell had a number less than five.

Table 4. An analysis of variance for salary paid to two-year and four-year accountants by employers.

Source	df	Sum of Squares	Mean Square	F*
Total	77	14,243,050.00		
Company	38	10,521,490.00		
Educational Level	1	755,200.30	755,200.30	9.674*
Error	38	2,966,362.00		

At α = .05 level, F = 4.10

	Mean	SE
Four-year graduates	1,022.44	44.74
Two-year graduates	825.64	

average available salary for the four-year accountant was $1,022.44 while the average salary that would be offered to the two-year graduate was somewhat less--$825.64.

It can be concluded for subsection a of hypothesis one that there was a significant difference in the hiring by employers of both two-year and four-year accounting graduates because two-year graduates would be offered a significantly lower salary.

Subsection b of hypothesis one was:

b. Were graduates adequately prepared to handle the positions to which they were assigned?

   If yes, in what areas were they especially well qualified?

The information needed in order to respond to this subsection of hypothesis one was found on the employer instrument, Section II question two and Section III, question twelve. These questions as well as the alternatives provided were all analyzed using chi square as can be noted in Table 3. A percentage listing of the "yes/no" responses were also included in Table 3.

A significant difference was found to exist between the two-year and four-year accountants in the area of a knowledge of theory and principles. The employers indicated that the four-year students appeared to be better prepared to handle a position in this regard (See Table 3). The Yates' Correction for Continuity was calculated for each chi square having less than five in any one cell. The Yates' Correction for Continuity was therefore calculated for the item--detailed and difficult accounting tasks. Using Yates' Correction on this item resulted in a significant difference being determined.

Each question on the instrument allowed space for additional comments and information to be given by the employer. Concerning subsection b, one employer expressed a distinct appreciation for some new graduates who had some general clerical and typing ability. These qualities were particularly useful to that company and to the positions that these accountants had been

assigned. Another employer felt that new employees had been particularly well qualified in related accounting work in the construction business and had been able to adapt much more easily to their current positions.

It can be concluded for subsection b of hypothesis one that there was a difference found between two-year and four-year accountants in the areas of "Knowledge of theory and principles," and "Detailed and difficult accounting tasks."

Subsection c of hypothesis one was:

c. Were graduates in need of additional education in certain areas?

   If yes, in what areas should greater attention be given?

The information needed in order to respond to this subsection of hypothesis one was found on the employer instrument, Section II, question three and Section III, question thirteen. These questions as well as the alternatives provided were all analyzed using chi square. See Table 3.

No significant values were obtained in the chi square analysis of this question. However, some comments concerning areas where additional education would have been helpful were voiced. One employer was particularly verbal in expressing his concern in the area of federal and state tax reporting. He believed that most employees

hired in the accounting area did not know where tax monies were to be sent that had been withheld. There was particularly a lack of understanding when a corporation had businesses located in several states and more than one report had to be completed and taken care of at the end of each withholding period for each locality.

Another employer asked that more time be spent investigating different organizations and actual accounting systems. He expressed the opinion that graduates should not just have the theoretically correct way of working with financial records and statements, but they needed an understanding of how to adapt and modify different systems to fit various situations and organizations. Cooperative organizations particularly appeared to be an area generally not included in the educational programs for accountants.

Several employers mentioned that misunderstandings by their employees concerning the practical aspects of real life work was especially evident. Concern was expressed because employees lacked a knowledge and understanding of the basic nontheoretical aspects of a position.

It can be concluded that for subsection c of hypothesis one that there was no difference found between the two educationally prepared groups.

Subsection d of hypothesis one was:

d. Would an accounting internship be beneficial?

Would you be willing to have students work with your company?

The information needed in order to respond to this subsection of the hypothesis was found on the employer's instrument, question four of Section II and question fourteen of Section III. These questions were analyzed using chi square and the information was presented in Table 3. No significant differences were found concerning this subsection.

Many employers had opinions and expressed ideas concerning the internship or work experience program. Ninety-five percent of all employers felt that such a program would be very beneficial to students while attending school (See table 3). However, when the question of whether or not they would be willing to provide a work station or an opportunity for a student to actually participate in such a program, the following comments were made:

> We are under a union contract and it is much too expensive to train people unless they show real possibility.
>
> At the present time, we are much too small.
>
> Possibly if we had a job opening. However, executive committee approval would have to be obtained.

Too small to offer a program.

We would work with it only if the accountant were to work for us full-time later on.

Possibly this could be done at other company office locations.

We are not a large company.

Depends.

Some employers indicated that they would be more willing to work with the two-year graduate than a four-year person on such a program. They expressed the idea that they could pay slightly less to the two-year person thereby making the program less costly. One employer stated that there was actually a greater chance that a two-year individual would be more willing to hire on and remain with the company after graduation than a four-year graduate.

In summary of the information obtained for analysis of hypothesis one, there were very few differences found. A significant difference was obtained concerning the salaries offered to two-year and four-year accounting personnel. The only other significant differences found were in the area where students were particularly well qualified at the education institution. Here, it was determined that four-year graduates were better qualified in the areas of "Knowledge of theory and principles," and "Detailed and more difficult accounting tasks."

Analyses of hypothesis two

Data to be analyzed in responding to this hypothesis were summarized on the employer instrument.

Hypothesis two: There will be no significant difference in employer promotional practices for the two-year and four-year accounting educated individuals.

This hypothesis was broken down into several subcategories and will be considered one at a time to make the analyses easier to understand and follow.

a. Do you require employees to attend any workshops and so forth?

If yes, what programs are required?

The information to respond to this question was gathered by the employer instrument. Question five of Section II, and question fifteen of Section III, contained the employer responses to this query. The data obtained are descriptive in nature and were thus analyzed using chi square. No significant differences were found between the two groups regarding this question as can be seen by consulting Table 5.

Several employers suggested that computer training, particularly the IBM computer training program, should be included as part of this question. An opinion expressed by several employers was the fact that employees were strongly encouraged to attend professional development activities, but they were not required to do so.

Table 5. A listing of the percentage of "yes" and "no" reponses as well as chi square values for employer responses for both two-year and four-year accountants concerning employer promotional practices.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
5, and 15	Attendance at professional development activities to upgrade accounting knowledge and skill.	38	62	31	69	.51	--
	In-house programs	20	80	33	67	.62	.12
	Professional meetings	47	53	42	58	.07	--
	Professional development courses	47	53	33	67	.49	1.20
	College courses	33	67	50	50	.77	--
	Home study courses	27	73	42	58	.68	.17
	Conferences	53	47	42	58	.36	--
	Workshops	53	47	58	42	.07	--
	Seminars	93	7	83	17	.68	2.07
	Other	7	93	0	100	--	--

Table 5 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
6, and 16	Financial assistance given by company to assist employees upgrade accounting knowledge and skill.	77	23	67	33	1.01	--
	Lump sum of money	3	97	0	100	--	--
	Pays tuition	73	27	77	23	.10	--
	Pays travel and motel expenses	43	57	42	58	.01	--
	Pays for books and supplies	60	40	58	42	.03	--
	Provides a living allowance	7	93	4	96	.22	1.13
	Other	20	80	15	85	.20	.64
7, and 17	Company provides magazines specifically for accounting department use.	51	49	42	58	.65	--
	The Journal of Accountancy	80	20	81	19	.01	.11
	Management Accounting	15	85	6	94	.69	1.86
	The Practical Accountant	10	90	6	94	.16	1.02

Table 5 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
	The Accounting Review	25	75	31	69	.17	--
	The Tax Adviser	20	80	19	81	.01	.07
	Taxation for Accountants	15	85	19	81	.06	.02
	Taxes--The Tax Magazine	5	95	6	94	.03	.32
	The CPA	10	90	12	88	.06	.09
	The Journal of Taxation	5	95	6	94	.03	.32
	The CPA Journal	10	90	12	88	.06	.09
	Other	35	65	25	75	.42	1.02
8, and 18	Additional education increase employees' chances for promotion.	51	49	74	26	3.996*	--
	In-house programs	5	95	14	86	.97	.25
	Attendance at professional meetings	11	89	11	89	--	.21
	Professional development courses	47	53	36	64	.64	--
	College courses	84	16	82	18	.03	.34

Table 5 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
	Home study courses	42	58	39	61	.04	--
	Conferences	16	84	14	86	.02	.31
	Workshops	21	79	18	82	.07	.42
	Seminars	32	68	25	75	.24	--
	Other	5	95	25	75	3.12	1.88
9, and 19	Is there an annual salary increase given with an employee promotion?	13	87	10	90	.13	--
10, and 20	Company policy concerning advancement of accounting personnel.	11	89	5	95	.67	3.19

*At α = .05 level, critical value of χ^2 = 3.84.

[1]All chi squares were recalculated using Yates' Correction for Continuity whenever a cell had a number less than five.

Subsection b of hypothesis two is as follows:

b. Does your company assist employees financially to upgrade accounting knowledge?

If yes, what kind of assistance is given?

The information to respond to this question was gathered from question six, Section II, and question sixteen of Section III of the employer instrument. The data obtained were analyzed using chi square. The chi square values are presented in Table 5. No significant differences were found.

Several employers expressed opinions, however, concerning financial assistance granted to employees as follows:

> The company pays tuition only up to a given amount.
>
> The company pays for one-half of the tuition and one-half of the book costs.
>
> Only certain employees would be given financial assistance.
>
> The company would be happy to pay for the cost of a CPA review course.
>
> A per diem is given on a living allowance only.
>
> The company pays for all travel and motel if the employee is sent out of town.
>
> The company will pay all costs incurred if the employee will take the Chrysler program available.
>
> The company pays for only designated seminars and workshops.

Subsection c of hypothesis two is as follows:

c. Does your company subscribe to magazines for the accounting department?

If yes, which magazines?

The information to respond to this question was gathered from question seven, Section II, and question seventeen of Section III of the employer instrument. The data obtained were analyzed using chi square. The chi square values are presented in Table 5. No significant differences were found.

During the interview, many employers indicated that they did provide literature for the accounting department. Several of the employers indicated that the literature specifically written for their type of industry was all that was actually needed by the accountants in their employ. They stated that in-house and industry related literature was particularly important and necessary. These types of publications were certainly made available to their employees. Several other items, however, were listed by employers as being provided for their accounting personnel including the following:

FASB Statements
The Cooperative Accountant
Prentice Hall Federal Tax Guide
CCH Federal Tax Guides
Chrysler Accounting Materials
Wall Street Journal
AICPA Professional Standards
Fortune
Supervisory Management

Subsection d of hypothesis two is as follows:

d. Would additional education increase an employee's chances for promotion?

   If yes, what kind of educational programs were acceptable?

The information to respond to this question was gathered from question eight, Section II, and question eighteen of Section III of the employer instrument. The data obtained were analyzed using chi square. The chi square values are presented in Table 5.

A significant difference was found for the question concerning additional education increasing an employee's chances for a promotion. Apparently the four-year accountants did not need as much additional education in the eyes of the employer as did the two-year accounting graduate. There was not a difference in the type or kind of acceptable education.

One employer indicated that an MBA program would be very acceptable education for accounting employees who were perhaps seeking the opportunity to move upward in the corporation. Several others also indicated that because their companies were small, there really was not much opportunity whereby upward mobility could actually be accommodated.

Subsection e of hypothesis two is as follows:

e. Does the company have an amount of money that is granted with a promotion?

If yes, approximately how much?

The information to respond to this question was gathered from question nine, Section II, and question nineteen of Section III of the employer instrument. The data obtained by the first question were analyzed using chi square and the actual dollar amount specified was analyzed using a one-way analysis of variance.

The value obtained in calculating chi square is displayed on Table 5. No significant difference was found. The one-way analysis of variance can be seen by consulting Table 6. The F value obtained was not significant, and attention is drawn to the fact that only five four-year and four two-year responses were collected concerning such a company policy.

One employer whose company did have such a policy indicated that the company used a combination of a cost of living raise plus a performance review. It was through this type of analysis procedure that any additional money amounts to be given with a promotion were determined.

Subsection f of hypothesis two is as follows:

f. Does your company have a policy concerning advancement?

If yes, what job titles are used?

Table 6. One-way analysis of variance for annual salary increase for two-year and four-year accountants if given a promotion.

Source	df	Sum of Squares	Mean Square	F*
Total	8	1,437,500.00		
Educational Level	1	28,125.00	28,125.00	.1397
Error	7	1,409,375.00	201,339.30	

*At α = .05 level, F = 5.59.

	Number	Mean	SE
Four-year graduates	5	700.00	200.67
Two-year graduates	4	812.50	224.35
Total	9		

The information to respond to this question was gathered from question ten, Section II, and question twenty of Section III of the employer instrument. The "yes/no" portion of this question was analyzed using chi square and the values obtained are presented in Table 5. The latter portion of this question was a descriptive one asking for specific job titles. This information was listed and presented in table format (See Table 7).

No significant differences were found during the analysis of this question. Several comments made by various employers, however, are presented:

Table 7. Company policy concerning promotions granted to newly hired accounting employees as reported by employers.

Title of Job Entry Position	Title of First Promotion Position	Title of Second Promotion Position
Assistant Comptroller	Comptroller	--
Accounting Clerk	Accounting Specialist	Accounting Officer
Accountant	Assistant Controller	Controller
General Accountant	Analytical Accountant	Senior Accountant
Accounts Payable Clerk	New Car Dealer Clerk	Computer Operator

> I wouldn't want such a policy established in the company. I want to be free to use my own judgment and work with the various employees to determine if a promotion should be given.
>
> I think enthusiasm and motivation should be used in making such a decision. Attitudes are difficult to put into a policy and measure.

In response to the job titles used by the various companies, the employers themselves indicated that regardless of whether an individual had a two-year or four-year education, they would probably work through

these same promotional steps (See Table 7). Differences, however, might be found in the time required and spent at the different levels themselves.

In summary of the information presented in the analyses of hypothesis two, only one difference was found. This difference occurred for the question concerning additional education increasing an employee's chances for promotion--subsection d. Here, employers indicated that two-year employees needed more education than four-year graduates if such education were to increase an employee's chances for promotion.

Analyses of hypothesis three

Data for the analyses of this hypothesis were taken from the accountant questionnaire.

Hypothesis three: There will be no significant difference in the accounting educational program taken by two-year and four-year accounting students.

The information used in the analysis for responding to this hypothesis was taken from Section I of the accountant questionnaire. Since interviews were conducted with accountants having either two-years of accounting education or four-years of accounting education, two groups were formed and the comparisons made using an analysis of chi square.

All chi square values as well as the percentages of the "yes/no" answers are presented in Table 8. Several chi square values exceeded the critical value of 3.84 necessary to be considered significant at the .05 level. Specifically, the following were found to be significant:

managerial accounting
intermediate accounting I
intermediate accounting II
advanced accounting I
advanced accounting II
cost accounting I
auditing
Federal income tax accounting I
Federal income tax accounting II
COBOL programming
fortran programming
principles of insurance
business English
business law
business statistics
principles of finance
management information systems
principles of management
economics I
economics II
business machines

All of the above courses that were found significant were taken by a larger number of four-year accounting students than two-year accounting students except business English and business machines. These two courses were taken by more two-year educated individuals than by the four-year accountants.

The "other" category included on this section of the instrument was included so that accountants who had

Table 8. A listing of the percentage of "yes" and "no" responses as well as chi square values for both two-year and four-year accountants regarding the accounting educational program taken.

Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
	Yes	No	Yes	No		
First year bookkeeping	42	58	60	40	2.98	--
Second year bookkeeping	23	77	40	60	2.65	
Elementary accounting I	98	2	95	5	.35	1.38
Elementary accounting II	93	7	86	14	1.12	1.99
Managerial accounting	84	16	51	49	10.38*	--
Intermediate accounting I	93	7	70	30	7.68*	9.29*
Intermediate accounting II	86	14	58	42	8.32*	--
Advanced accounting I	70	30	40	60	7.93*	--
Advanced accounting II	60	40	26	74	10.67*	--
Cost accounting I	84	16	49	51	11.71*	--
Cost accounting II	35	65	19	81	2.91	--
Industrial accounting	7	93	2	98	1.05	2.36

Table 8 Continued.

Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
	Yes	No	Yes	No		
Auditing	65	35	35	65	7.86*	--
Federal income tax accounting I	79	21	53	47	6.30*	--
Federal income tax accounting II	56	44	28	72	6.88*	--
Basic computer concepts I	63	37	56	44	.43	--
Basic computer concepts II	33	67	21	79	.18	--
Basic programming	49	51	30	70	3.11	--
COBOL programming	33	67	14	86	4.17*	--
Fortran programming I	28	72	9	91	4.19*	6.22*
Advanced fortran programming	0	100	0	100	--	--
Data processing applications	26	74	21	79	.26	--
Systems design and development	19	81	19	81	--	--
Principles of insurance	35	65	12	88	6.52*	--
Business mathematics	70	30	72	28	.06	--

Table 8 Continued.

Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
	Yes	No	Yes	No		
Business English	60	40	84	16	5.80*	--
Technical writing	26	74	23	77	.06	--
Business law	91	9	65	35	8.17*	9.73*
Business statistics	81	19	35	65	19.11*	--
Principles of finance	84	16	49	51	11.71*	--
Principles of business	53	47	44	56	.74	--
Management information systems	37	63	14	86	6.11*	--
Office management	30	70	28	72	.06	--
Principles of management	70	30	40	60	7.93*	--
Principles of advertising	33	67	16	84	3.09	--
Economics I	88	12	67	33	5.47*	--
Economics II	81	19	30	70	22.82*	--
Keypunching	16	84	28	72	1.69	--

Table 8 Continued.

Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
	Yes	No	Yes	No		
Business machines	40	67	77	13	12.23*	--
Other	7	93	5	95	.21	.85

*At α = .05 level, critical value of χ^2 = 3.84.

[1]All chi squares were recalculated using Yates' Correction for Continuity whenever a cell had a number less than five.

taken courses that perhaps were not included in the listing could add them if they felt these additional courses to be important enough to do so. The courses that were listed as being helpful were:

typewriting
filing
economics--upper level
cooperative accounting
CPA review
logic

Because of the significant differences found during the analyses of this hypothesis, hypothesis three was rejected.

Analyses of hypothesis four

Data for the analyses of hypothesis four were taken from the accountant instrument.

Hypothesis four: There will be no significant difference between two-year and four-year accounting graduates in the way they view the benefits that they have received from their educational programs.

Specific information obtained for this hypothesis was taken from Section I of the accountant instrument. Each accountant was asked to rate each of the courses that they had taken while attending school as being of "great benefit," "some benefit," or "no benefit." After the information was gathered, a scale was assigned to these items. By assigning numerical values to these

categories, a one-way analysis of variance could then be computed for each of the courses to determine if differences existed.

Only four courses were rated differently by the accountants themselves as can be seen from Tables 9, 10, 11, and 12. These courses were:

elementary accounting I
elementary accounting II
business law
business machines.

Elementary accounting I was rated as more beneficial by the two-year accounting majors and had a mean value of 2.79 whereas the four-year accountants average was 2.53. Elementary accounting II was also viewed by the two-year accountants as being more beneficial to them than to the four-year graduates. Business machines was also rated differently by the two groups with the two-year accounting graduates viewing this class as more beneficial to them than did the four-year graduates. Business law, on the other hand, was rated by the four-year accountants as being of more benefit to them than the view expressed by the two-year graduates.

All other one-way analyses of variance that were calculated failed to obtain significant values and have been placed at the end of the report as Appendix C.

Upon analyzing the various questionnaire forms, it was determined that no accountants interviewed had taken the advanced fortran programming class. Therefore, no

Table 9. One-way analysis of variance for elementary accounting I.

Source	df	Sum of Squares	Mean Square	F*
Total	76	17.2208		
Educational Level	1	1.3881	1.3881	6.576*
Error	75	15.8327	0.2111	

*At α = .05 level; F = 3.98

	Number	Mean	SE
Four-year graduates	38	2.5263	0.0821
Two-year graduates	39	2.7949	0.0655
Total	77		

Table 10. One-way analysis of variance for elementary accounting II.

Source	df	Sum of Squares	Mean Square	F*
Total	71	16.8750		
Educational Level	1	1.4603	1.4603	6.632*
Error	70	15.4147	0.2202	

*At α = .05 level; F = 3.98

	Number	Mean	SE
Four-year graduates	37	2.4865	0.0833
Two-year graduates	35	2.7714	0.0720
Total	72		

Table 11. One-way analysis of variance for business law.

Source	df	Sum of Squares	Mean Square	F*
Total	62	26.2222		
Educational level	1	3.0464	3.0464	8.018*
Error	61	23.1758	0.3799	

*At α = .05 level; F = 4.00

	Number	Mean	SE
Four-year graduates	38	2.2895	0.0991
Two-year graduates	25	1.8400	0.1249
Total	63		

Table 12. One-way analysis of variance for business machines.

Source	df	Sum of Squares	Mean Square	F*
Total	49	15.2200		
Educational level	1	1.5872	1.5872	5.588*
Error	48	13.6328	0.2840	

*At α = .05 level; F = 4.04

	Number	Mean	SE
Four-year graduates	17	2.4118	0.1728
Two-year graduates	33	2.7879	0.0723
Total	50		

analysis of this course was made or included. As with all questions included in the study, the "other" category was analyzed using a one-way analysis of variance. No significant F value was obtained for this category and so the analysis is also included in Appendix C.

Because a significant difference was obtained for four of the courses, the null hypothesis was rejected. Accountants from the two educational levels did not view the benefit received from courses taken in the same way.

Analyses of hypothesis five

Data for the analyses of this hypothesis were taken from the accountant questionnaire.

Hypothesis five: There will be no significant difference in salaries currently being earned between two-year and four-year educationally prepared individuals.

The information for analysis of this hypothesis was taken from question 2 of Section II of the accountant questionnaire. It was analyzed using a one-way analysis of variance to determine if the salaries currently being earned by two-year accountants was significantly different from the salaries being earned by four-year accountants. See Table 13.

Table 13. One-way analysis of variance for salary received by four-year and two-year educated accountants.

Source	df	Sum of Squares	Mean Square	F*
Total	83	20,985,595.2383		
Educational level	1	2,094,222.5781	2,094,222.5781	9.090*
Error	82	18,891,372.6602	230,382.5934	

*At α = .05 level; F = 3.96

	Number	Mean	SE
Four-year graduates	41	1,466.4634	82.2493
Two-year graduates	43	1,150.5814	65.7054
Total	84		

The F value obtained from this analysis was 9.090 and the critical F value was 3.96 thereby making this a significant F. The null hypothesis was rejected. There was a difference in the salaries earned between two-year and four-year educated individuals.

Analyses of hypothesis six

The data to be analyzed in this hypothesis were taken from the accountant instrument.

Hypothesis six: There will be no significant difference concerning hiring and promotional practices of employers as viewed by two-year associate degree

and/or certificate individuals and four-year bachelor degree university graduates.

The information for analyses of this hypothesis was taken from Section II, questions three through sixteen of the accountant questionnaire. Both chi square and one-way analyses of variance statistical techniques were used in order to analyze the data of the accountants' responses.

Subsection a of hypothesis six was:

a. How long have you been employed by your current employer?

The information to respond to this question was found in question three, Section II, of the accountant instrument. This information was analyzed using a one-way analysis of variance as shown in Table 14.

Most of the accountants interviewed had been with that particular company between three and four years as can be seen from the averages presented in Table 14. The two-year graduates had been with the company slightly longer than the four-year group, but there was not enough difference in the time period to be significant.

Subsection b of hypothesis six was:

b. What is the length of time you have been working in your present position?

Table 14. One-way analysis of variance for length of time accountants had been employed by their current employer.

Source	df	Sum of Squares	Mean Square	F*
Total	85	591.3488		
Educational Level	1	6.6977	6.6977	0.962
Error	84	548.6512	6.9601	

*At α = .05 level; F = 3.96

	Number	Mean	SE
Four-year graduates	43	3.4884	0.3814
Two-year graduates	43	4.0465	0.4222
Total	86		

The information needed to respond to this question was found in question four, Section II, of the accountant questionnaire. This information was analyzed using a one-way analysis of variance as can be seen from examining Table 15.

Again, the two-year accountants had been in their present positions slightly longer than the four-year educated individuals, but not enough longer to be considered significant. Both groups, taken as an average, had been in their present positions slightly longer than two and one-half years.

Table 15. One-way analysis of variance for length of time the accountants had been in their current position.

Source	df	Sum of Squares	Mean Square	F*
Total	85	381.7209		
Educational Level	1	1.6744	1.6744	0.370
Error	84	380.0465	4.5244	

*At α = .04 level; F = 3.96

	Number	Mean	SE
Four-year graduates	43	2.6977	0.3303
Two-year graduates	43	2.9767	0.3183
Total	86		

Subsection c of hypothesis six was:

c. Have you held any other accounting position in this company?

If yes, give title and salary.

This information was taken from the accountant instrument, Section II, question five. A chi square was to be computed for the "yes/no" portion of this question. However, exactly 15 four-year and 15 two-year individuals responded that they had held another position with their current employer. Because there was no difference between the two groups, only a percentage listing is given and presented in table format in Table 16.

Table 16. A listing of the percentage of "yes" and "no" responses as well as chi square values for both two-year and four-year accountants concerning their view of job promotional opportunities.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
5	Have you held any other accounting related position in this company?	35	65	35	65	--	--
6	Will you have the opportunity to be promoted if you continue working for your present employer?	76	24	55	45	3.63	--
	If not, are there no other higher positions in the company?	26	74	14	86	0.10	1.81
	Do you need additional education?	3	97	19	81	3.61	2.02
	Do you need additional experience?	10	90	10	90	--	--
	Do you need greater skill and knowledge?	0	100	19	81	--	--
	Other	0	100	33	67	--	--
7	Would additional education in accounting increase your chances for promotion?	44	56	60	40	2.06	--
	In-house programs	24	76	4	96	3.68	5.78*

Table 16 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
	Attendance at professional meetings	41	59	8	92	6.62*	8.73*
	Professional development courses	53	47	24	76	3.69	--
	College courses	65	35	80	20	1.22	--
	Home study courses	24	76	32	68	.36	.06
	Conferences	24	76	12	88	.97	1.98
	Workshops	29	71	12	88	1.99	3.28
	Seminars	53	47	16	84	6.46*	8.31*
	Other	12	88	4	96	.92	2.46
8	When you are given a promotion, does your company have a predetermined yearly amount that is granted with such a promotion?	10	90	23	77	2.61	3.68
9	Does your company have a specific policy concerning advancement or promotion of newly hired accounting personnel?	8	92	13	87	.62	1.34

Table 16 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
10	Would your company hire a graduate with no previous work experience?	91	9	94	6	.39	.04
11	Were you adequately prepared by the educational institution to handle the position to which you were assigned?	83	17	73	27	.39	1.18
	Routine accounting tasks	70	30	91	9	1.49	.44
	Detailed and more difficult accounting tasks	30	70	45	55	.53	.08
	Accounting theory and principles	60	40	55	45	.06	.48
	Computer work in accounting area	30	70	36	64	.10	.02
	Human relations skills	30	70	18	82	.40	1.32
	Management duties	20	80	9	91	.51	1.79
	Use of calculators and other office machines	0	100	82	18	--	--
	Communication skills	30	70	18	82	.40	1.32

Table 16 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
	Organization of time and priority determination	20	80	55	45	2.65	1.39
	Other	10	90	9	91	.01	.66
12	Were you in need of additional educational background in certain areas?	65	35	88	12	1.40	.50
	Routine accounting tasks	18	82	0	100	--	--
	Detailed and more difficult accounting tasks	36	64	29	71	.12	.73
	Accounting theory and principles	45	55	29	71	.51	1.47
	Computer work in relation to accounting duties	45	55	57	43	.23	--
	Human relations skills	18	82	14	86	.05	.75
	Management duties	18	82	29	71	.27	.004
	Use of calculating and other office machines	27	73	43	57	.47	.03

Table 16 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction
		Yes	No	Yes	No		
	Organization of time and priority determination	45	55	29	71	.51	1.47
	Other	0	100	0	100	--	--
13	Would an internship or work experience program have been beneficial to you prior to your obtaining a degree and finding full-time employment?	86	14	70	30	2.78	--
	Would you have been willing to work for a company during your school preparation for such on-the-job experience?	100	0	100	0	--	--
14	Does your company require you to attend various programs to up-grade your accounting knowledge and skill?	26	74	14	86	1.69	--
	In-house programs	18	82	33	67	.50	.01
	Attendance at professional meetings	36	64	17	83	.73	1.98
	Professional development courses	45	55	33	67	.24	1.00

Table 16 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
	College courses	27	73	17	83	.24	1.19
	Home study courses	0	100	0	100	--	--
	Conferences	45	55	50	50	.03	.11
	Workshops	36	64	50	50	.30	.00
	Seminars	82	18	67	33	.50	1.70
	Other	9	91	17	83	.21	.11
15	Does your company assist you financially to up-grade accounting knowledge and skill?	67	33	42	56	4.35*	--
	Given lump sum of money	0	100	0	100	--	--
	Company pays tuition	68	32	61	39	.22	--
	Company pays travel and motel expenses	25	75	22	78	.05	.32
	Company pays for books and supplies	43	57	39	61	.07	--

Table 16 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
	Company provides a living allowance	0	100	0	100	--	--
	Other	11	89	33	67	3.56	2.27
16	Does your company subscribe to magazines specifically for your use?	44	56	26	74	2.67	--
	The Journal of Accountancy	44	56	50	50	.08	--
	Management Accounting	17	83	20	80	.05	.09
	The Practical Accountant	6	94	10	90	.19	.11
	The Accounting Review	0	100	0	100	--	--
	The Tax Adviser	22	78	0	100	--	--
	Taxation for Accountants	6	94	10	90	.19	.11
	Taxes--The Tax Magazine	0	100	0	100	--	--
	The CPA	0	100	0	100	--	--
	The Journal of Taxation	11	89	0	100	--	--

Table 16 Continued.

Item Number	Item	Four-Year Percents		Two-Year Percents		Chi Square Value*	Yates Correction[1]
		Yes	No	Yes	No		
	The CPA Journal	0	100	0	100	--	--
	Other	44	56	30	72	.56	1.33

*At α = .05 level; critical value of χ^2 = 3.84.

[1]All chi squares were recalculated using Yates' Correction for Continuity whenever a cell had a number less than five.

Since fifteen four-year and fifteen two-year accountants responded that they had held previous positions within the company, they were requested to supply the title, length of time they had held the previous position, and the salary they had earned while holding that position. This information is presented in Tables 17 and 18.

Table 17. Previous position, salary and length of time spent in that position by four-year accounting graduates.

Title of Previous Position	Salary per month	Length of Time
Accountant	1,000	1 year
Accountant	--	2 years
Accountant I	1,185	1 year
Accounting Clerk	650	1 year
Accounts Payable Accountant	725	3 yrs. 1 mo.
Accounts Payable Supervisor/ Paymaster	1,350	7 years
Analytical Accountant	1,176	15 months
Assistant Office Manager	1,200	--
Controller	1,000	2 years
General Accountant-Payroll Clearing	1,000	1 year
Junior Cost Accountant	750	9 months
Retail Accounting Manager	--	5 years
Staff Accountant	1,000	18 months
Staff Accountant	900	6 months
Staff Accountant	1,000	1 year
Averages	995	2 years

Table 18. Previous position, salary and length of time spent in that position by two-year accounting graduates.

Title of Previous Position	Salary per month	Length of Time
Accountant	900	1 year
Accountant	800	18 months
Accountant	800	2 years
Accounts Payable Clerk	560	7 months
Accounts Receivable Clerk	1,050	5 years
Assistant Accountant	600	6 years
Assistant Accountant	800	18 months
Chief Accountant and Office Manager	1,000	2 years
Clerk	700	2 years
Comptroller	1,350	2 years
Inventory Control Clerk	850	18 months
Office Manager	1,600	1 year
Rebate Clerk	--	--
Senior Accountant	1,350	8 months
Senior Accounting Clerk	900	3½ years
Averages	947	2 yrs. 2 mo.

Four year accountants earned an average of $995 per month in previous positions held within the same company and held that position for approximately two years. Two-year accountants, on the other hand, averaged a slightly smaller salary--$947--and on the average promotions were granted a little more slowly--two months on the average slower than those granted to four-year accountants.

Of the 28 responses by four-year accountants indicating that they had held no previous position in this company, 17 of them had transferred into this company and eight indicated that this was their first position since graduation from school. Of the 28 responses by two-year accountants, 14 indicated that they had transferred into this company from a previous company while six indicated that this was their first accounting position since graduation.

The other responses given here included the following:

> I've had two other accounting positions since my graduation from Trade Tech.
>
> I transferred from another department within this company.
>
> I started out as a factory laborer and moved up because of my educational background.
>
> My interest lies in areas other than accounting.
>
> I was a full charge bookkeeper for seven months prior to a job with an insurance company and then I came to this position.
>
> I worked while attending school.
>
> I applied directly for this position and it was given to me.
>
> I have held accounting positions in five other companies.
>
> This is the third accounting position that I have held and I worked up to this position since I have been with this company.

I do many jobs throughout the company.

I worked part time before obtaining my BS degree and I am continuing to work while I am working toward my MBA.

Subsection d of hypothesis six was:

d. Will you be promoted if you continue working for this company?

If yes, what will be your job title?

How long before such a promotion will become available?

If no, why won't a promotion become available to you?

The needed information to analyze this subsection was taken from the accountant instrument, Section II, question six. This question was included to obtain the information concerning the view an accountant held toward the possible chances of being promoted to a higher position if he continued to work for his present company. This question was analyzed using chi square. Also, the alternatives listed under the "no" response were also analyzed using chi square, and these calculations can be seen in Table 16. None were significant. In the "yes" category possibilities, the accountant was to indicate the title or job position that might be received if he were promoted. The interviewed accountant also estimated the approximate length of time that would be required before such a promotion might be granted. See Table 19.

Table 19. Promotional title and time estimate before such a promotion to be granted for both two-year and four-year accountants.

Promotional Title	Length of Time Before Promotion Received
Two-Year Accounting Graduates:	
Accountant	--
Accountant	1 year
Assistant Comptroller	--
Assistant Secretary Treasurer	5 years
Comptroller	--
Comptroller	--
Comptroller	--
Data Processing Manager	2 or 3 years
General Accounts Supervisor	--
Office Manager or Accounting Manager	--
Officer Trainee	1 year
Senior Accountant	2 months to year
Supervisor	--
Four-Year Accounting Graduates:	
Assistant Accounting Section Head	5 or more years
Assistant Controller	--
Assistant Manager	5 years
Assistant Office Manager/Storeroom Supervisor	6 months
Assistant Treasurer	10 years
Controller	20 years
Controller	5 to 10 years
Controller	5 to 7 years
Controller	3 to 5 years
Office Management, Senior Accountant	1 year
Secretary Treasurer	5 years
Treasurer/Vice President of Finance	2 to 10 years
Vice President	2 years
Vice President of Finance	2 years
Vice President of Finance	3 years
Vice President of Finance	2 years
Vice President of Finance	--

Most accountants felt that they would receive a promotion if they remained with the company. The major reason given if a promotion was not anticipated was the fact that there were no higher positions in the financial area of the company.

For those anticipating a promotion, the length of time varied greatly. Those accountants having a four-year degree seemed much more confident of a promotion and appeared to have a stronger sense of a time frame that would be required before such a promotion would be granted. A great many accountants indicated that they did not know if they would be given a promotion and still others stated that such would not be given until others employed by the company were retired.

For those accountants who indicated that they would not be given a promotion, several gave reasons for this attitude as follows:

> I'm the only computer operator and want to stay in this field.
>
> There are many more responsibilities and additional training on the job that would be needed and so I would rather stay where I am.
>
> I belong to a union and this is as far as you can go. I don't want to drop out of the union.
>
> Wrong sex--not male.
>
> Need MBA or CPA before I can move any higher up in the company.

I was hired as a secretary/accountant. There is no similar position like this in the company.

There is no structured promotional policy.

Nothing definite known, but I feel I will be because the company is growing.

Colleges do not offer the appropriate classes at night so that I can get the background I need to move up.

I don't know.

Subsection e of hypothesis six was:

e. Would additional education increase your chances for promotion?

If yes, what kind of education is acceptable?

The needed information to analyze this subsection was taken from the accountant instrument, Section II, question seven. The information was analyzed using chi square and was included in Table 16. It will be noted that there was no difference found between the two groups concerning the value of additional education. However, in analyzing the types of programs that were acceptable to the company, "in-house" programs were viewed differently by the two groups when using the Yates' Correction for Continuity. Two other significant differences were obtained--"attendance at professional meetings," and "seminars." Both of these categories were deemed by the four-year accountants to be viable whereas the two-year accountants did not view them as acceptable.

There were some additional ideas listed concerning possible education that would be viewed favorably by employers. Two that were mentioned were courses for preparation to sit for the CPA exam and bank related graduate courses. One accountant made the statement that any education always helps. Several other accountants indicated that no information from management as to how education would increase chances for promotion was available to them.

Subsection f of hypothesis six was:

f. Does your company have a policy concerning the amount of money granted with a promotion?

If yes, approximately how much?

The information for this analysis was taken from Section II of the accountant questionnaire, question eight. The "yes/no" portion of this question was analyzed using chi square and the results obtained are included on Table 16. No significant difference was found. The actual dollar amount was analyzed using a one-way analysis of variance and the information is presented in Table 20. The small number of respondents makes the precision of this table very small. In addition, there was only one four-year respondent.

A great many accountants during the interview indicated a lack of knowledge concerning this area and were unable to give much information or help in this

Table 20. One-way analysis of variance for approximate range of a per year salary increase if granted a promotion.

Source	df	Sum of Squares	Mean Square	F*
Total	6	2,732,142.86		
Education Level	1	148,809.52	148.809.52	0.29
Error	5	2,583,333.33	516,666.67	

*At α = .05 level; F = 6.61

	Number	Mean	SE
Four-year graduates	1	625.00	0.00
Two-year graduates	6	1,041.67	293.45
Total	7		

area. Because of the few companies who have an established policy, the information presented in Table 20 gives only an idea of perhaps what actually exists in the business world.

Subsection g of hypothesis six was:

g. Does your company have a specific policy concerning advancement?

If yes, what are the job titles used?

The information for this analysis was obtained from the accountant questionnaire, question number nine. This information was analyzed using chi square and the information is presented in Table 16. Again, many accountants did not know if there were company policies

regarding the advancement of newly hired accounting personnel so that only a small number of responses were obtained. No significant differences were found in the chi square analysis.

The job titles of job entry positions and possible first and second promotional titles were requested from the accountants. The information obtained is presented in table form in Tables 21, 22, and 23.

The information contained in Table 21 was obtained from accountants who had entered the company immediately upon graduation and had started at what would be considered entry-level. All had received one promotion and were anticipating at least one additional promotion. The accountants reporting information contained in Table 22 were either still at the job entry level and anticipating a promotion or were at the second level and were already at the top level in that company. The information in Table 23 was obtained from accountants who had transferred into the present company from a previous accounting position and were hired in at a level other than job-entry. Most of these individuals were still at their first position with the present company and were anticipating at least one additional advancement.

Table 21. Titles of job entry position plus first and second promotions granted to both two-year and four-year accounting graduates.

Title of Job Entry Position	Title of First Promotion Position*	Title of Second Promotion Position
Four-Year Accounting Graduates:		
Accounts Payable Supervisor/ Paymaster	Accounting Manager	Controller
Staff Accountant	Assistant Secretary-Treasurer	Secretary-Treasurer
Staff Accountant	Controller	Vice President of Finance
Accountant	Office Manager	Controller
Accountant	Accounting Supervisor	Controller
Accountant	Chief Accountant	Assistant Manager
General Accounting/Payroll Clearing	Analytical Accountant	Senior Accountant
Controller	Treasurer-Controller	Treasurer or Vice President of Finance
Two-Year Accounting Graduates:		
Senior Accounting Clerk	Accounting Supervisor	Office Manager or Accounting Manager
Clerk	Office Manager	Comptroller
Assistant Accountant	Accounting Data Analyst	Accountant
Accountant	Data Processing Manager and Accounting Supervisor	Assistant Controller
Senior Accountant	Assistant Joint Interest Accounts Supervisor	Supervisor
General Accountant	Analytical Accountant	Senior Accountant

*All accountants providing this information were at the first promotion level.

Table 22. Titles of job entry and first promotion granted to both two-year and four-year accounting graduates.

Title of Job Entry Position	Title of First Promotion Position
Four-Year Accounting Graduates:	
Accounting clerk	Accounting Department Manager*
Assistant Office Manager	Office Manager*
Bookkeeper*	Assistant Controller
Staff Accountant	Payroll Supervisor*
Treasurer*	Vice President of Finance
Junior Cost Accountant	Payroll Accountant*
Accountant*	Controller
Accountant*	Assistant Treasurer
Accounting I	Supervisor, Disbursements*
Accounts Payable Clerk	Retail Accountant*
Two-Year Accounting Graduates:	
Accounts Payable Clerk	Accounts Payable Supervisor*
Assistant Accountant	Accounting Clerk*
Accounts Receivable Clerk	Payroll Clerk*
Accountant	Assistant Controller*
Rebate Clerk	Transportation and Fixed Assets Accountant*
Assistant Accounts Supervisor*	General Accounting Supervisor
Inventory Control Clerk	Assistant Controller*
Payroll Accounting Clerk*	Officer Trainee
Accountant	Chief Senior Accountant*
Auditor Trainee	Auditor*

*Indicate positions currently held by the reporting accountant. Shows either the first position held by an accountant with a possible promotion or current position held by the accountant with no promotional opportunity being viewed as available.

Table 23. Titles of first and second promotions granted to both two-year and four-year accounting graduates.

Title of First Promotion Position	Title of Second Promotion Position
Four-Year Accounting Graduates:	
Internal Auditor*	Office Manager, Senior Accountant
Senior Accounting Clerk*	Assistant Office Manager and Storeroom Supervisor
Comptroller*	Vice President of Finance
Assistant Controller/ Accounting Office*	Controller
Assistant Vice President-- Cashier*	Vice President
Accountant*	Controller
Analytical Accountant*	Senior Accountant
Analytical Accountant	Senior Accountant*
Two-Year Accounting Graduates:	
Accountant*	Controller
Staff Accountant*	Assistant Secretary-Treasurer
Data Processing Supervisor*	Data Processing Manager
Office Manager	Manager, Administration Accounting*
Chief Accountant and Office Manager	Payroll Manager*
Junior Accountant*	Accountant
Vice President and Assistant*	Comptroller

*Position currently held by the reporting accountant. These accountants were hired by the current company but had already worked in accounting and had built up a job history. They indicated that they had not come into the company at what would be considered a job entry-level position.

Subsection h of hypothesis six was:

h. Would your company hire a graduate with no previous work experience?

If yes, what would be the starting salary?

The information for the analysis was taken from the accountant questionnaire, Section II, question ten. The "yes/no" portion of this question was analyzed using chi square and was included in Table 16. No significance was found. The actual starting salary was requested and the data were analyzed using a one-way analysis of variance. This information is set forth in Table 24. No significance was found. In other words, the accountants themselves apparently did not view the employer as starting the graduates from the two educational levels at different rates of pay.

Subsection i of hypothesis six was:

i. Were you adequately prepared by your education for your position?

If yes, in what areas were you especially well qualified?

This information was taken from the accountant instrument, Section II, question eleven. All of the information here was analyzed using chi square and was included on Table 16. No items were found to be significant.

The category listed as "other" was included so that accountants could add any information they deemed

Table 24. One-way analysis of variance for current starting salary of non-experienced accountant.

Source	df	Sum of Squares	Mean Square	F*
Total	59	4,100,000.00		
Education Level	1	96,106.79	96,106.79	1.392
Error	58	4,003,893.21	69,032.64	

*At α = .05 level; F = 4.02

	Number	Mean	SE
Four-year graduates	31	963.71	33.90
Two-year graduates	29	833.62	60.12
Total	60		

important. One accountant stated:

> All of the areas listed are not covered well enough to qualify a graduate from a four-year school to be especially well qualified in any of them. There is a wide gap between what is covered in school and a complex accounting system in the real world.

Another accountant indicated that typing, shorthand, and other secretarial skills had actually been of tremendous assistance in the current accounting position held and had prepared the individual with a more realistic background of the real world than those areas listed on the questionnaire.

Subsection j of hypothesis six was:

j. Did you need additional education in certain areas?

If yes, what were they?

The information for this analysis was included in the accountant instrument, Section II, question twelve. All the information obtained here was analyzed using chi square and is displayed in Table 16. No significant differences were found between the two groups' views concerning areas where additional stress should be placed. One accountant indicated that he would have been appreciative of the opportunity of viewing and actually seeing different accounting systems prior to actually obtaining a position in the accounting area. Another accountant indicated that the area of banking and how they handle their financial matters needed to perhaps be covered somewhere in the educational situation.

Subsection k of hypothesis six was:

k. Would an accounting internship have been beneficial?

Would you have been willing to work while at school?

The information for this analysis was taken from the accountant questionnaire, Section II, question thirteen. This data was analyzed using chi square and the information was included in Table 16. No significant differences were found between the two groups.

Most of the accountants indicated that an internship program would have been helpful and 100 percent indicated

that they would have been willing to participate in such a program if it had been offered while they were still in school.

Subsection l of hypothesis six was:

l. Does your company require you to attend any workshops, and so forth?

If yes, what programs are required?

This data was obtained from the accountant questionnaire, Section II, question fourteen. The data were analyzed using chi square and the obtained values are displayed in Table 16. No significant differences were found between these two groups.

Several accountants indicated that computer training was an important program and that they had participated in such programs. The IBM computer training program in particular was mentioned by several.

Subsection m of hypothesis six was:

m. Does your company assist financially to up-grade accounting knowledge?

If yes, how is this assistance given?

This information was obtained from the accountant instrument, Section II, question fifteen. All analyses were made using chi square and are set forth in Table 16. There was a significant difference found between the two groups. This significance indicated that four-year accountants were given more opportunities for financial

assistance than were two-year accounting graduates. None of the alternatives provided under the main question, however, showed any significant chi square values.

Some of the comments that were made by accountants concerning financial assistance, however, were made as follows:

> My company pays one-half of all tuition and one-half of all books.
>
> We are given a lump sum of money depending upon the A, B, or C grade achieved in school.
>
> The company pays for all expenses incurred for any special training.
>
> The company pays 50 percent of the tuition.
>
> No, but I would like to take some classes in electronic data processing, internal auditing, and computer programming and work on my MBA at night school if the company would give assistance in tuition and possibly books.
>
> It has never been offered to me so I am not sure.
>
> The company assists only if they tell you to take a class.
>
> The company will help with tuition, but you never know exactly how much.
>
> The company pays for books, but not supplies.
>
> The company gives partial assistance.
>
> The company provides release time to attend classes.
>
> The company pays, depending on the grade received in the class.
>
> The company pays for one-half of tuition and one-half of books upon graduation.
>
> All expenses are paid for designated seminars by the company.

Subsection n of hypothesis six was:

n. Does your company subscribe to magazines for the accounting department?

If yes, what magazines?

The information used in this analysis was contained on the accountant questionnaire, Section II, question sixteen. The information obtained was analyzed using chi square and was included in Table 16. No significant differences were found between the two groups. Some additional materials, however, were listed by the accountants during the interview. Additional materials that are provided were:

Supervisory Management
Bank Tax Reporter
CCH Federal Tax Reporter
Wall Street Journal
Fortune
AICPA Professional Standards
CCH Tax Guide
Master Tax Guide
Banking Magazines
Tax Law Review
Interpreter

In summary of the information presented in the analyses of hypothesis six, only two questions resulted in significant differences. Differences found in subsection e were:

"In-house programs" when using Yates' Correction for Continuity.

"Attendance at professional meetings"

"Seminars"

The other significant difference was found in subsection m. This difference appeared to indicate that four-year accountants were given more opportunities for financial assistance than were two-year accounting graduates.

Summary

All six hypotheses were analyzed and the findings presented in this chapter. Data collected for analyses of hypothesis one and two were obtained through the employee interview and taken from that instrument. Data analyzed in responding to the other four hypotheses were taken from the accountant instrument. The results of these analyses were:

Rejection of hypothesis one, subsections a and b, were determined. A significant difference was obtained concerning salaries paid to two-year and four-year accountants. In addition, differences were also found concerning adequate preparation by educational institutions and the general areas where excellent preparation had been obtained. "Detailed and difficult accounting tasks" using Yates' Correction for Continuity, as well as "Accounting theory and principles" were the two options where these significant differences were found.

Hypothesis two, subsection d, was rejected because of significant values obtained there. The subject of additional education that would be beneficial in assisting

an accountant gain a promotion was discussed. It was determined that the four-year graduate did not need as much additional education as the two-year accountant according to employer opinion.

Hypothesis three was rejected. Here, there were twenty-one out of forty classes that were taken by a larger number of one group than another. There definitely was a difference in the educational courses taken by the two groups.

Hypothesis four was rejected because of the differences held by the two groups concerning the benefit they had received from the courses taken. There were four courses--elementary accounting I, elementary accounting II, business law, and business machines--where the benefit obtained was viewed differently.

Hypothesis five was rejected. There was a significant difference in the salaries earned by accountants in each group with the four-year accountants receiving a higher salary.

Hypothesis six, subsections e and m, were rejected because of significant differences obtained there. In subsection e, the two accountant groups held different opinions concerning the value of educational programs in regard to possible promotions in the areas of "In-house" programs (using Yates' Correction for

Continuity), "Attendance at professional meetings," and "Seminars." The other difference was found in subsection m concerning whether or not a company provided financial assistance to accountants so that they could upgrade their knowledge and skill of accounting and continue to grow professionally.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The problem

This study was conducted to determine if employers were inclined to discriminate between two-year and four-year educated accountants in making hiring and promotional decisions. In addition, both two-year and four-year educated accountants were studied to see if there were differences between these two groups in regard to educational programs taken, perceptions of the benefit received from the courses taken, salaries received, and views concerning employer hiring and promotional practices.

The subjects

This study included three different groups. The first group consisted of 39 employers who employed both two-year and four-year educated accountants. The second and third groups were accountants having different educational degrees--43 two-year associate degree graduates and 43 bachelor degree graduates.

From the companies listed in Dun and Bradstreet's Million Dollar Directory and Middle Market Directory, a

sample of businesses was drawn and contacted by telephone. If the company employed both educational levels of accounting employees, an appointment was made and an interview conducted with the employer. The names of accountants and permission from the employer were then obtained and an interview held with at least one accounting employee from each company.

The procedures

Employers and two educational levels of accountants employed full-time were interviewed. Because the interview technique was used, only businesses located along the Wasatch Front area from Ogden on the North to Springville on the South were used. Eighty-three percent of all businesses within the state of Utah that have a net worth of $500,000 or over are located along the Wasatch Front, and this smaller geographical area expedited the data gathering. In addition, it was assumed that all businesses within the state of Utah with a net worth of $500,000 or more would be similar to each other.

Two instruments were designed to be used during the interview itself so that the same information would be obtained in all of the interviews. Also, all additional data that the interviewees were willing to share with the investigator were gathered.

The instrument used during the interview with employers contained four different sections. Section I was included to determine the number of two-year and four-year educated accountants currently employed by the business. Section II was directed toward gaining information about four-year graduates only, and Section III was written to gather the desired data about two-year accounting graduates. Section IV was included to allow for ease in listing the names and educational degrees held by the accounting employees.

The employee questionnaire, which was used during the accountant interview, contained two sections. Section I set forth a listing of all common courses taught in Utah's postsecondary schools in the accounting program area. Also, placed along side of this course listing was a scale whereby accountants could indicate the benefit that had been derived from having had a particular course. Section II contained questions concerning salaries currently being earned as well as a request for input about the accountants' opinions of employer hiring and promotional practices.

A pilot study was conducted in Logan, Utah. This city was selected because it is contiguous to the Wasatch Front and was assumed to be similar to it. During the pilot study, seventeen businesses were contacted, and all

input obtained was used to refine and improve both instruments used in the study itself.

Analysis of the data

The Applied Statistics Department and the Computer Center of Utah State University processed the data for this study. Chi square and analyses of variance were the statistical techniques used where appropriate for the various kinds of data gathered.

Hypotheses

Data were gathered in response to six hypotheses investigated in the current study. Hypothesis one, subsections a and b, were rejected. A significant difference was obtained in hypothesis two, subsection d, leading to a rejection of this subsection. Hypotheses three, four, and five were rejected. Hypothesis six, subsections e and m, were also rejected.

Hypothesis one

Hypothesis one, subsections a and b, were rejected because differences were found. In subsection a, it was determined that four-year accounting graduates were paid a significantly larger salary than were two-year accounting graduates. Also, in subsection b, employers reported that four-year accountants were better prepared

educationally to handle "Detailed and difficult accounting tasks," as well as "Accounting theory and principles."

Hypothesis two

Promotional practices of employers were also found to contain differences in regard to the two groups of graduates. In subsection d, employers indicated that four-year graduates did not need as much additional education as the two-year associate degree graduates would need when and if such additional education were to be considered for possible promotions. Therefore, this subsection d of hypothesis two was rejected.

Hypothesis three

Hypothesis three was rejected. The accounting educational programs taken by the two different groups of accountants were significantly different from one another. Four-year accountants had taken many more courses in accounting than had the two-year graduates. The following courses had been taken by more four-year graduates than two-year graduates:

managerial accounting
intermediate accounting I
intermediate accounting II
advanced accounting I
advanced accounting II
cost accounting I
auditing
Federal income tax accounting I
Federal income tax accounting II
COBOL programming

fortran programming
principles of insurance
business law
business statistics
principles of finance
management information systems
principles of management
economics I
economics II

The following courses had been taken by more two-year accounting graduates than four-year graduates:

business machines
business English

Hypothesis four

Rejection of hypothesis four resulted from differences found between the two groups concerning the benefit received from accounting courses taken in school. Four courses were viewed differently by the two groups--elementary accounting I, elementary accounting II, business law, and business machines. Two-year graduates apparently viewed elementary accounting I, elementary accounting II, and business machines as having greater benefit than did the four-year graduates. On the other hand, four-year graduates indicated that business law was of great benefit to them whereas the two-year graduates did not view the course as that beneficial.

Hypothesis five

Hypothesis five was rejected. There was a difference in the salaries earned by accountants in the two groups.

It was determined that four-year graduates earned a significantly larger salary than did the two-year graduates.

Hypothesis six

Hypothesis six, subsections e and m, were rejected. In subsection e, the two groups of accountants held different opinions concerning the acceptability of educational programs when evaluated by the company in regard to possible promotions. Three such programs were viewed differently by the two groups. These programs were: "In-house programs," "Attendance at professional meetings," and "Seminars." In subsection m, a difference was found concerning whether or not a company provided financial assistance to accountants so that they could upgrade their knowledge and skill. Apparently more opportunities were presented to four-year graduates.

Conclusions

Based on significant differences found

The following conclusions were drawn based on the significant differences found during the analyses:

1. Employers pay four-year accounting education graduates higher salaries than they pay two-year accounting education graduates.

2. Four-year accountants were better prepared educationally to handle "detailed and difficult accounting tasks," as well as "accounting theory and principles."

3. Employers believed that four-year graduates did not need as much additional education as two-year graduates when education was a criteria used in determining promotions.

4. There is a difference in the accounting educational programs taken between two-year and four-year accounting graduates.

5. Four-year accounting graduates took more courses in:

managerial accounting
intermediate accounting I
intermediate accounting II
advanced accounting I
advanced accounting II
cost accounting I
auditing
Federal income tax accounting I
Federal income tax accounting II
COBOL programming
fortran programming
principles of insurance
business law
business statistics
principles of finance
management information systems
principles of management
economics I
economics II

6. Two-year accounting graduates took more courses in:

business machines
business English

7. Four-year accountants viewed business law as more beneficial to them in the business world than did the two-year accounting graduates.

8. Two-year accountants viewed elementary accounting I, elementary accounting II, and business machines as being more valuable to them in the business world than did the four-year accountants.

9. Four-year accounting graduates earned a significantly higher salary than did the two-year accounting graduates.

10. Four-year accounting graduates agreed that "In-house programs," "Attendance at professional meetings," and "Seminars," were viable educational programs.

11. Four-year accounting graduates were given more opportunities for financial assistance in upgrading skill and knowledge than were two-year graduates.

Based on consensus of interviewees

The following conclusions were drawn based on the number of interviewees indicating similar opinions and views:

1. Most employers (95 percent) were willing to hire graduates from postsecondary schools without previous work experience.

2. Most employers (87 percent regarding four-year graduates and 92 percent regarding two-year graduates) consider graduates from the various postsecondary educational institutions adequately prepared to handle the positions to which they were assigned.

3. Most employers (89 percent regarding four-year accountants and 86 percent regarding two-year accountants) deduced that graduates did need additional education in certain areas.

4. Most employers (95 percent) believed that an accounting internship would be helpful for accounting graduates to have.

5. Most employers (77 percent regarding four-year graduates and 67 percent regarding two-year graduates) were willing to give financial assistance to aid employees to upgrade accounting knowledge and skill.

6. Most companies do not have a policy dictating an annual salary increase given with an employee promotion.

7. Most companies do not have a company policy concerning advancement of accounting personnel.

8. Most accountants, both two-year and four-year, had been with their current employer between three and four years.

9. The average number of years that accountants, both two-year and four-year, had worked in their present positions was slightly over two and one-half years.

10. Most accountants (86 percent of the four-year accountants and 70 percent of the two-year accountants) believed that an internship experience would have been beneficial to them prior to their entering the work force.

11. Accounting employees would have been willing to work for a company during their school preparation period in order to obtain on-the-job experience.

12. Employers do not require accounting employees to attend various programs in order to upgrade their accounting knowledge and skill.

Recommendations

General recommendations

Based upon the information and data obtained in the present research study, the following recommendations are made:

1. It is recommended that postsecondary institutions in the state of Utah seriously consider establishing or expanding an internship program in the accounting area to provide students an opportunity to gain on-the-job experience. Even though many businesses were not willing to cooperate in providing work stations for such programs, many employers declared an interest in it and expressed

strong positive views about the benefits that would result. Not only that, every accountant expressed a willingness to participate. All indicated that they would have been eager to work with such a program while they were attending school. Thus, the cooperative experience should be expanded or added to the curriculum.

2. It is recommended that accounting teachers at the postsecondary institutions inform students of actual differences that were found between the two accounting groups. By so doing, more logical choices can be made by those involved. Students should realize that they will be paid according to their educational background. Four-year accountants were better prepared to handle "detailed and difficult accounting tasks," and "accounting theory and principles." The four-year graduates had taken many more classes that are taught in the accounting curriculum than had the two-year graduates. Individuals with a strong background and a greater knowledge of the discipline, even though they may not need it, cannot help but be more confident and positive in their approach to their position. Attitudes affect and aid or hinder progress. The four-year graduates have an advantage when it comes to background and a strong foundation in accounting education.

Four-year accountants appeared more aware of opportunities for promotions and also appeared to have a greater idea of the time involved in gaining such promotions. Also, when opportunities for further education were made available, four-year graduates were able to see value in "in-house programs," "attendance at professional meetings," and "seminars" as fulfilling this need. Two-year graduates, on the other hand, tended to look toward college courses and programs available through educational institutions as those to be considered.

Accounting students also need to be made aware of the fact that most companies do have programs and policies for their assistance and benefit. Most companies were willing to assist employees to upgrade their knowledge and skill. In order to take advantage of such benefits, however, employees need to become involved enough in the company to find out about such opportunities and benefits.

3. It is recommended that certain areas of the curriculum receive greater emphasis in the accounting program area. Communication skills, human relation skills, management principles, and data processing knowledge were areas where employers expressed a desire to see a stronger educational emphasis by postsecondary

institutions. Employers would like to see more of these skills in the graduates that they hire.

4. It is recommended that accounting students become aware of the rating that accountants placed on the courses that they took while at school. Students need to be made aware of the courses that were considered to be very beneficial by accountants on the job. Such knowledge gives current students a feeling of credibility in the program they are studying. Also, when knowledge gained at school is known to actually be used on the job, greater relevance is felt. It is easier to stimulate greater enthusiasm and elicit greater effort from the students themselves. Some of the courses that were rated as very beneficial by both groups were:

elementary accounting I
elementary accounting II
business machines
first year bookkeeping
second year bookeeping
managerial accounting
intermediate accounting I
intermediate accounting II
advanced accounting I
advanced accounting II
federal income tax accounting II
basic computer concepts I
basic computer concepts II
office management
business English
business mathematics

5. It is recommended that greater effort be made to establish stronger relationships between the educational

institutions and the business world. The needs of the business world should be of major consideration by the educational institution in order to keep curriculum relevant and timely. Students need to be prepared for their future life's work, not just given information because professors and teachers enjoy talking about particular subjects. More realism and greater use of the business community should be attempted in order to allow for a continuous flow of information between these two groups.

Recommendations for further studies

1. It is recommended that similar studies be done periodically to provide information to help keep educational institutions current and aware of business practices.

2. A study should be undertaken to determine the exact duties performed by the four-year graduate on the job in private business.

3. When the exact duties and tasks performed by the four-year graduate are known, a comparison study between tasks performed by both educational levels of accountants should be undertaken to see if there are any differences and if so, what these differences are.

4. A study should be undertaken to determine the current status of accounting internship programs in Utah including the actual benefits and values derived from such accounting programs.

LITERATURE CITED

Barton, Frank M. 1975. Ph.D. Dissertation. The Employment of Accounting Associate Degree Graduates of Two Technical Institutes in Tennessee. 167 p.

Benson, George and Joseph Chasin. 1976. Entry-Level Positions--Do Business Schools Really Give an Advantage. Journal of College Placement. 37(11):73-77.

Biehler, Robert F. 1974. Psychology Applied to Teaching. Second Edition. Houghton Mifflin Company, Boston. 795 p.

Boynton, Lewis D. 1955. Methods of Teaching Bookkeeping. South-Western Publishing Company. 573 p.

The Carnegie Commission on Higher Education. 1971. 53 p.

Conover, Hobart H., and William R. Daggett. 1976. Business Education--The Changing Tide. The Balance Sheet. 53(1):170-171,186.

Freeman, David D. 1971. Reduction of Operating Costs by Use of Paraprofessional Personnel. The New York Certified Public Accountant. 50(9):678.

Horn, Frederick E. 1975. Academic Preparation of the Accountant of the Future. The Journal of Accountancy. 34(5):64-68.

Horowitz, Louis. 1974. An Evaluation of the Accounting Career Curriculum. The Journal of Business Education. 40(4):281-282.

Keller, William D. 1969. Accounting Requirements--A Survey and a Reaction. Business Education Forum. 38(12):15-16.

Kelly, Richard Lewis. 1970. Ed.D. Dissertation. Pennsylvania State University. A Job Analysis of the Tasks of Selected Semiprofessional Accountants in New York State. 328 p.

Kiefer, D. L. and T. R. Compton. 1975. Accounting Paraprofessional in the Public Accounting Firm. CPA 45(6):72-76.

Kiefer, Dale L. and Ted R. Compton. 1977. Paraprofessionals in Public Accounting: How They're Being Used. Practical Accounting. 10(4):30.

King, Patricia Horner. 1976. An Evaluation of Two-Year Accounting Programs at Selected Virginia Community Colleges. Ed.D. Dissertation, Virginia Polytechnical Institute, Virginia. (Original not seen; abstracted in Dissertation Abstracts 37(4):7106. June, 1977.)

Loeb, Stephen E. and Victoria S. Rymer. 1973. The Accounting Paraprofessional. The Journal of Accountancy. 32(4):43-49.

Moore, Michael R. 1973. Professional Development: The Future is Now. The Journal of Accountancy. 32(5):38-47.

Ozello, Lawrence M. 1967. An Analysis of Accounting-Type Activities Performed by Technical Accountants in Firms Manufacturing Durable Goods with Implications for Evaluation of Post-High School Terminal Accounting Programs. Ph.D. Dissertation. Michigan State University. 224 p.

Pofahl, James W. 1977. More on Paraprofessionals. The Journal of Accountancy. 36(10):44,47.

Popham, Shrag and Blockhus. 1975. A Teaching-Learning System for Business Education. McGraw Hill Book Company. 486 p.

Ramage, Judy Ann. 1977-1978. Don't Send an Accountant to Do A Bookkeeper's Job. The Balance Sheet. 53(1):170-171,186.

Report of the Committee on Junior (Community) College Curriculum. 1973. The Accounting Review. Supplement to Volume XLVIII. 63:37-71.

Sapre, Padmakar M., and Roscoe D. Perritt. 1976. A Historical Development of Accounting and Data Processing. National Business Education Yearbook No 14. 255 p.

Schmitz, Steve, and Ronald Jacobs. 1977. The Paraprofessional Debate. The Journal of Accountancy. 36(5):38,40.

Should You Have a Paraprofessional? 1977. Practical Accountant. 10:28-29,31.

Skousen, K. Fred. 1977. Accounting Education: The New Professionalism. The Journal of Accountancy. 36(7):54-58.

United States Government. 1978. Department of Labor. Bureau of Labor Statistics. Bulletin 2004. National Survey of Professional Administrative, Technical, and Clerical Pay. 78(3). 63 p.

United States Government. 1979-1980. Department of Labor. Employment and Training Administration. United States Employment Service. Extra Edition for Students and Recent Graduates of Occupations in Demand at Job Service Offices. Extra Edition No. 5. Fall/Winter, 1979-80:1-4.

Usry, Milton F. 1973. The Meaning of Professional Development. The Journal of Accountancy. 32(5):89-91.

West, Leonard J., et. al. 1973. Survey of Entry-Level Bookkeeping Activities in Relation to the High School Bookkeeping Curriculum. Research Report 73-1. Institute for Research and Development in Occupational Education. Office of Teacher Education. City University of New York. November, 1973. Also in Delta Pi Eplison Journal, entire issue. November, 1974.

Yandoh, Keith T. 1971. The Upstate New York Community College Career Accounting Graduate. Ed.D. Dissertation. State University of New York at Albany. 177 p.

APPENDIXES

Appendix A

Telephone conversation used in contacting Employers

TELEPHONE DIALOGUE

Good morning (good afternoon). My name is Anita Weston and I am associated with Utah State University on a research project. We are in the process of revising and updating our accounting program and would like some employer input.

Do you employ both accountants and bookkeepers?

Would you be willing to let me come by with some forms for you to fill out giving us the necessary information that we need?

Would the morning or the afternoon be more convenient for you?

Appendix B

Companies Willing to Participate

COMPANIES CONTACTED AND WILLING TO PARTICIPATE

Below are listed the companies contacted and where interviews were conducted during the data gathering phase of this study. Those companies designated with an asterisk were the ones meeting all the criteria set forth in the study and were actually used in the statistical analyses.

*AFCO Investment Corporation
South Main Street
Salt Lake City, Utah 84111

*Amalgamated Sugar Company
2404 Washington Blvd.
Ogden, Utah 84402

*American Strevell, Inc.
1701 South 700 West
Salt Lake City, Utah 84125

*Anderson Lumber Company
2404 Washington Blvd.
Ogden, Utah 84402

*Associated Food Stores, Inc.
1812 South Empire Road
Salt Lake City, Utah 84125

Ball Manufacturing Company
903 West Center
North Salt Lake, Utah 84054

*Bank of Pleasant Grove
66 South Main Street
Pleasant Grove, Utah 84062

Bank of Utah
2605 Washington Blvd.
Ogden, Utah 84402

*Bettilyon Mortgage Loan Company
333 West 2100 South
Salt Lake City, Utah 84115

*Billings Energy Research Corporation
2000 East Billings Avenue
Provo, Utah 84601

Bountiful Motor Sales, Inc.
2773 South Main Street
Bountiful, Utah 84010

*R. S. Bowers Construction Company
2920 South West Temple
Salt Lake City, Utah 84115

*Boyles Brothers Drilling Company
1624 Pioneer Road
Salt Lake City, Utah 84110

Burrows Smith and Company
136 South Main Street
Salt Lake City, Utah 84101

Canyon Development, Inc.
7350 Wasatch Blvd.
Salt Lake City, Utah 84117

Capital Glass and Aluminum Corporation
3515 South 300 West
Salt Lake City, Utah 84115

*Centennial Development Co., Inc.
3808 Southwest Temple
Salt Lake City, Utah 84115

*Citizens National Bank
2168 Washington Blvd.
Ogden, Utah 84402

*Clover Club Foods Company
100 East 200 North
Kaysville, Utah 84037

*Coordinated Financial Services
32 Exchange Place
Salt Lake City, Utah 84111

Educators Mutual Insurance Association
875 East 5180 South
Salt Lake City, Utah 84107

*David W. Evans, Inc.
110 Social Hall Avenue
Salt Lake City, Utah 84111

*Farmers Grain Co-Op
2727 Pennsylvania Avenue
Ogden, Utah 84409

Foulger Equipment Company
1361 South 300 West
Salt Lake City, Utah 84110

Galigher West, Inc.
440 West Eighth South
Salt Lake City, Utah

*Hinckleys, Inc.
1000 South Main Street
Salt Lake City, Utah 84101

House of Hose
2201 South 300 West
Salt Lake City, Utah 84115

*Humble Brothers
3646 South Redwood Road
Salt Lake City, Utah 84119

*Huntsman Chemical and Oil Corporation
1979 South Seventh West
Salt Lake City, Utah 84133

*Intermountain Precision-Built Homes
2525 North Highway 89
Ogden, Utah 84404

*IRECO Chemicals
726 Kennecott Building
Salt Lake City, Utah 84133

*J. B.'s Big Boy Family Restaurants
1010 West 2610 South
Salt Lake City, Utah 84119

*Jones Paint and Glass, Inc.
170 North 100 West
Provo, Utah 84601

*Milne Truck Lines, Inc.
2500 West California Avenue
Salt Lake City, Utah 84104

*Motor Cargo, Inc.
845 West Center Street
North Salt Lake, Utah 84054

*Mountain Fuel Supply Company
180 East First South
Salt Lake City, Utah 84139

*Price Industries
35 Century Parkway
Salt Lake City, Utah 84117

*Tony Price Chevrolet, Inc.
2651 South Main Street
Bountiful, Utah 84010

*Producers Livestock Marketing Association
200 Exchange Boulevard
North Salt Lake, Utah 84054

*Prudential Federal Savings and Loan Association
115 South Main Street
Salt Lake City, Utah 84111

*Rocky Mountain Helicopter, Inc.
800 South 3100 West
Provo, Utah 84601

SALCO Manufacturing and Distributing Company
1420 Major Street
Salt Lake City, Utah 84115

*Security National Life Insurance Company
3115 East 7800 South
Salt Lake City, Utah 84121

*Skaggs Companies, Inc.
310 Bearcat Drive
Salt Lake City, Utah 84125

State Savings and Loan Association
125 South Main
Salt Lake City, Utah 84111

*O. C. Tanner, Inc.
1930 South State Street
Salt Lake City, Utah 84115

Terra Teck, Inc.
420 Wakara Way
Salt Lake City, Utah 84108

United Bank
5595 South State Street
Salt Lake City, Utah 84107

Valley Bank and Trust Company
1325 South Main Street
Salt Lake City, Utah 84115

*Valtek, Inc.
One Mountain Spring Parkway
Springville, Utah

Walker Bank and Trust Company
175 South Main Street
Salt Lake City, Utah 84142

*Rick Warner Ford, Inc.
47 West 600 South
Salt Lake City, Utah 84101

*Wasatch Electric Company
1574 Southwest Temple
Salt Lake City, Utah 84110

Weber Valley Bank
2910 Washington Boulevard
Ogden, Utah 84401

*Wheeler Machinery Company
330 West 2100 South
Salt Lake City, Utah 84115

*Young Electric Sign Company
1148 South 300 West
Salt Lake City, Utah 84125

Appendix C

One-Way Analysis of Variance Tables

Table 25. One-way analysis of variance for first year bookkeeping.

Source	df	Sum of Squares	Mean Square	F*
Total	39	13.1000		
Education level	1	0.1667	0.1667	0.490
Error	38	12.9333	0.3404	

*At α = .05 level; F = 4.10

	Number	Mean	SE
Four-year graduates	15	2.2667	0.1533
Two-year graduates	25	2.4000	0.1155
Total	40		

Table 26. One-way analysis of variance for second year bookkeeping.

Source	df	Sum of Squares	Mean Square	F*
Total	25	10.3462		
Education level	1	0.3462	0.3462	0.831
Error	24	10.0000	0.4167	

*At α = .05 level; F = 4.26

	Number	Mean	SE
Four-year graduates	8	2.2500	0.2500
Two-year graduates	18	2.5000	0.1457
Total	26		

Table 27. One-way analysis of variance for managerial accounting.

Source	df	Sum of Squares	Mean Square	F*
Total	52	15.2075		
Education level	1	0.3407	0.3407	1.169
Error	51	14.8669	0.2915	

*At α = .05 level; F = 4.03

	Number	Mean	SE
Four-year Graduates	34	2.4118	0.0955
Two-year Graduates	19	2.5790	0.1164
Total	53		

Table 28. One-way analysis of variance for intermediate accounting I.

Source	df	Sum of Squares	Mean Square	F*
Total	64	14.8615		
Education level	1	0.0991	0.0991	0.423
Error	63	14.7625	0.2343	

*At α = .05 level; F = 4.00

	Number	Mean	SE
Four-year Graduates	36	2.6111	0.0824
Two-year Graduates	29	2.6897	0.0874
Total	64		

Table 29. One-way analysis of variance for intermediate accounting II.

Source	df	Sum of Squares	Mean Square	F*
Total	59	15.9333		
Education level	1	0.1596	0.1596	0.587
Error	58	15.7738	0.2720	

*At α = .05 level; F = 4.00

	Number	Mean	SE
Four-year Graduates	34	2.5882	0.0955
Two-year Graduates	26	2.6923	0.0923
Total	60		

Table 30. One-way analysis of variance for advanced accounting I.

Source	df	Sum of Squares	Mean Square	F*
Total	43	12.7273		
Education level	1	0.0836	0.0836	0.278
Error	42	12.6437	0.3010	

*At α = .05 level; F = 4.07

	Number	Mean	SE
Four-year Graduates	29	2.2414	0.0949
Two-year Graduates	15	2.3333	0.1594
Total	44		

Table 31. One-way analysis of variance for advanced accounting II.

Source	df	Sum of Squares	Mean Square	F*
Total	34	12.6857		
Education level	1	0.1819	0.1819	0.480
Error	33	12.5038	0.3789	

*At α = .05 level; F = 4.14

	Number	Mean	SE
Four-year Graduates	24	2.2083	0.1201
Two-year Graduates	11	2.3636	0.2033
Total	35		

Table 32. One-way analysis of variance for cost accounting I.

Source	df	Sum of Squares	Mean Square	F*
Total	49	21.9200		
Education level	1	0.4512	0.4512	1.009
Error	48	21.4688	0.4473	

*At α = .05 level; F = 4.04

	Number	Mean	SE
Four-year Graduates	32	2.0313	0.1052
Two-year Graduates	18	1.8333	0.1852
Total	50		

Table 33. One-way analysis of variance for cost accounting II.

Source	df	Sum of Squares	Mean Square	F*
Total	21	12.0000		
Education level	1	0.7857	0.7857	1.401
Error	20	11.2143	0.5607	

*At α = .05 level; F = 4.35

	Number	Mean	SE
Four-year Graduates	14	2.1429	0.1772
Two-year Graduates	8	1.7500	0.3134
Total	22		

Table 34. One-way analysis of variance for industrial accounting.

Source	df	Sum of Squares	Mean Square	F*
Total	5	4.8333		
Education level	1	0.0833	0.0833	0.070
Error	4	4.7500	1.1875	

*At α = .05 level; F = 7.71

	Number	Mean	SE
Four-year Graduates	4	2.2500	0.4787
Two-year Graduates	2	2.0000	1.0000
Total	6		

Table 35. One-way analysis of variance for auditing.

Source	df	Sum of Squares	Mean Square	F*
Total	40	19.2195		
Education level	1	1.5502	1.5502	3.422
Error	39	17.6693	0.4531	

*At α = .05 level; F = 4.09

	Number	Mean	SE
Four-year Graduates	27	2.4815	0.1347
Two-year Graduates	14	2.0714	0.1646
Total	41		

Table 36. One-way analysis of variance for federal income tax accounting I.

Source	df	Sum of Squares	Mean Square	F*
Total	53	20.8333		
Educ. level	1	1.1450	1.1450	3.024
Error	52	19.6883	0.3786	

*At α = .05 level; F = 4.03

	Number	Mean	SE
Four-year Graduates	33	2.3939	0.0967
Two-year Graduates	21	2.0952	0.1528
Total	54		

Table 37. One-way analysis of variance for federal income tax accounting II.

Source	df	Sum of Squares	Mean Square	F*
Total	33	10.3824		
Education level	1	0.0111	0.0111	0.034
Error	32	10.3712	0.3241	

*At α = .05 level; F = 4.15

	Number	Mean	SE
Four-year Graduates	22	2.4546	0.1087
Two-year Graduates	12	2.4167	0.1930
Total	34		

Table 38. One-way analysis of variance for basic computer concepts I.

Source	df	Sum of Squares	Mean Square	F*
Total	45	9.3261		
Education level	1	0.0766	0.0766	0.364
Error	44	9.2495	0.2102	

*At α = .05 level; F = 4.06

	Number	Mean	SE
Four-year Graduates	25	2.3200	0.0952
Two-year Graduates	21	2.2381	0.0952
Total	46		

Table 39. One-way analysis of variance for basic computer concepts II.

Source	df	Sum of Squares	Mean Square	F*
Total	21	4.3636		
Education level	1	0.3978	0.3978	2.006
Error	20	3.9658	0.1983	

*At α = .05 level; F = 4.35

	Number	Mean	SE
Four-year Graduates	13	2.3846	0.1404
Two-year Graduates	9	2.1111	0.1111
Total	22		

Table 40. One-way analysis of variance for basic programming.

Source	df	Sum of Squares	Mean Square	F*
Total	33	12.7853		
Education level	1	1.1141	1.1141	3.068
Error	32	11.6212	0.3632	

*At α = .05 level; F = 4.15

	Number	Mean	SE
Four-year Graduates	22	2.0455	0.1227
Two-year Graduates	12	1.6667	0.1880
Total	34		

Table 41. One-way analysis of variance for COBOL programming.

Source	df	Sum of Squares	Mean Square	F*
Total	15	6.9375		
Education level	1	0.1042	0.1042	0.213
Error	14	6.8333	0.4881	

*At α = .05 level; F = 4.60

	Number	Mean	SE
Four-year Graduates	10	2.0000	0.2108
Two-year Graduates	6	1.8333	0.3073
Total	16		

Table 42. One-way analysis of variance for fortran programming I.

Source	df	Sum of Squares	Mean Square	F*
Total	13	4.8571		
Education level	1	0.0071	0.0071	0.018
Error	12	4.8500	0.4042	

*At α = .05 level; F = 4.75

	Number	Mean	SE
Four-year Graduates	10	1.7000	0.2134
Two-year Graduates	4	1.7500	0.2500
Total	14		

Table 43. One-way analysis of variance for data processing applications.

Source	df	Sum of Squares	Mean Square	F*
Total	16	5.0588		
Education level	1	0.8366	0.8366	2.972
Error	15	4.2222	0.2815	

*At α = .05 level; F = 4.84

	Number	Mean	SE
Four-year Graduates	9	2.4444	0.1757
Two-year Graduates	8	2.0000	0.1890
Total	17		

Table 44. One-way analysis of variance for systems design and development.

Source	df	Sum of Squares	Mean Square	F*
Total	12	6.0000		
Education level	1	0.0000	0.0000	0.000
Error	11	6.0000	0.5455	

*At α = .05 level; F = 4.84

	Number	Mean	SE
Four-year Graduates	8	2.0000	0.2673
Two-year Graduates	5	2.0000	0.3162
Total	13		

Table 45. One-way analysis of variance for principles of insurance.

Source	df	Sum of Squares	Mean Square	F*
Total	14	4.4000		
Education level	1	0.0667	0.0667	0.200
Error	13	4.3333	0.3333	

*At α = .05 level; F = 4.67

	Number	Mean	SE
Four-year Graduates	12	1.8333	0.1667
Two-year Graduates	3	1.6667	0.3333
Total	15		

Table 46. One-way analysis of variance for business mathematics.

Source	df	Sum of Squares	Mean Square	F*
Total	53	16.5926		
Education level	1	0.5129	0.5129	1.659
Error	52	16.0797	0.3092	

*At α = .05 level; F = 4.03

	Number	Mean	SE
Four-year Graduates	26	2.2692	0.1046
Two-year Graduates	28	2.4643	0.1089
Total	54		

Table 47. One-way analysis of variance for business English.

Source	df	Sum of Squares	Mean Square	F*
Total	56	15.5088		
Education level	1	0.7663	0.7663	2.859
Error	55	14.7424	0.2680	

*At α = .05 level; F = 4.02

	Number	Mean	SE
Four-year Graduates	24	2.4167	0.1191
Two-year Graduates	33	2.1818	0.0809
Total	57		

Table 48. One-way analysis of variance for technical writing.

Source	df	Sum of Squares	Mean Square	F*
Total	20	9.8095		
Education level	1	1.7038	1.7038	3.994
Error	19	8.1058	0.4266	

*At α = .05 level; F = 4.38

	Number	Mean	SE
Four-year Graduates	13	2.4615	0.1439
Two-year Graduates	8	1.8750	0.2950
Total	21		

Table 49. One-way analysis of variance for business statistics.

Source	df	Sum of Squares	Mean Square	F*
Total	46	18.4681		
Education level	1	0.2780	0.2780	0.688
Error	45	18.1900	0.4042	

*At α = .05 level; F = 4.06

	Number	Mean	SE
Four-year Graduates	34	1.9412	0.1029
Two-year Graduates	13	1.7692	0.2011
Total	47		

Table 50. One-way analysis of variance for principles of finance.

Source	df	Sum of Squares	Mean Square	F*
Total	54	20.1091		
Education level	1	0.5091	0.5091	1.377
Error	53	19.6000	0.3698	

*At α = .05 level; F = 4.03

	Number	Mean	SE
Four-year Graduates	35	2.2000	0.1145
Two-year Graduates	20	2.0000	0.1026
Total	55		

Table 51. One-way analysis of variance for principles of business.

Source	df	Sum of Squares	Mean Square	F*
Total	40	9.6098		
Education level	1	0.2764	0.2764	1.155
Error	39	9.3333	0.2393	

*At α = .05 level; F = 4.09

	Number	Mean	SE
Four-year Graduates	24	2.1667	0.0983
Two-year Graduates	17	2.0000	0.1213
Total	41		

Table 52. One-way analysis of variance for management information systems.

Source	df	Sum of Squares	Mean Square	F*
Total	20	6.5714		
Education level	1	0.1008	0.1008	0.296
Error	19	6.4706	0.3406	

*At α = .05 level; F = 4.38

	Number	Mean	SE
Four-year Graduates	17	2.1765	0.1282
Two-year Graduates	4	2.0000	0.4082
Total	21		

Table 53. One-way analysis of variance for office management.

Source	df	Sum of Squares	Mean Square	F*
Total	21	7.8636		
Education level	1	0.0136	0.0136	0.035
Error	20	7.8500	0.3925	

*At α = .05 level; F = 4.35

	Number	Mean	SE
Four-year Graduates	12	2.2500	0.1306
Two-year Graduates	10	2.2000	0.2494
Total	22		

Table 54. One-way analysis of variance for principles of management.

Source	df	Sum of Squares	Mean Square	F*
Total	44	18.9778		
Education level	1	0.0123	0.0123	0.028
Error	43	18.9655	0.4411	

*At α = .05 level; F = 4.07

	Number	Mean	SE
Four-year Graduates	29	2.0345	0.1264
Two-year Graduates	16	2.0000	0.1581
Total	45		

Table 55. One-way analysis of variance for principles of advertising.

Source	df	Sum of Squares	Mean Square	F*
Total	21	7.4545		
Education level	1	0.6837	0.6837	2.020
Error	20	6.7708	0.3385	

*At α = .05 level; F = 4.35

	Number	Mean	SE
Four-year Graduates	16	1.5625	0.1573
Two-year Graduates	6	1.1667	0.1667
Total	22		

Table 56. One-way analysis of variance for economics I.

Source	df	Sum of Squares	Mean Square	F*
Total	61	24.7742		
Education level	1	0.0199	0.0199	0.048
Error	60	24.7543	0.4126	

*At α = .05 level; F = 4.00

	Number	Mean	SE
Four-year Graduates	36	1.6944	0.1114
Two-year Graduates	26	1.7308	0.1184
Total	62		

Table 57. One-way analysis of variance for economics II.

Source	df	Sum of Squares	Mean Square	F*
Total	44	19.2444		
Education level	1	0.0038	0.0038	0.008
Error	43	19.2400	0.4475	

*At α = .05 level; F = 4.08

	Number	Mean	SE
Four-year Graduates	34	1.7059	0.1159
Two-year Graduates	11	1.7273	0.1950
Total	45		

Table 58. One-way analysis of variance for keypunch.

Source	df	Sum of Squares	Mean Square	F*
Total	18	9.1579		
Education level	1	0.0627	0.0627	0.117
Error	17	9.0952	0.5350	

*At α = .05 level; F = 4.45

	Number	Mean	SE
Four-year Graduates	7	1.7143	0.2857
Two-year Graduates	12	1.8333	0.2072
Total	19		

Table 59. One-way analysis of variance for other.

Source	df	Sum of Squares	Mean Square	F*
Total	3	0.7500		
Education level	1	0.0833	0.0833	0.250
Error	2	0.6667	0.3333	

*At α = .05 level; F = 18.51

	Number	Mean	SE
Four-year Graduates	1	3.0000	0.0000
Two-year Graduates	3	2.6667	0.3333
Total	4		

Appendix D

Instrument used during Employer Interview

INFORMATION CONCERNING THE EMPLOYMENT OF ACCOUNTANTS

This information gathering form pertains to the full-time employment of bookkeeping/accounting personnel who have been employed or hired by your company since 1973. The information obtained will be kept strictly confidential. There are four sections.

SECTION I. GENERAL INFORMATION

Firm_____ Address_____

Name of Person Reporting _____ Title_____

How many full-time four-year university accounting graduates does your company employ at this particular office location? . . . . . _____

How many full-time employees does your company employ in the financial area who have had some post-secondary education but who have not obtained a bachelor's degree and who are employed at this particular office location? . . . . . _____

SECTION II. FOUR-YEAR UNIVERSITY ACCOUNTING GRADUATES

Directions: If your company employs any full-time four-year university accounting graduates, complete this section. However, if your company employs only individuals with some post-secondary education but who do not have a four-year degree, skip this Section and complete SECTION III which begins on page 4.

1. Would your company hire a university accounting graduate with no previous work experience? . . . . . Yes___ No___

If yes, approximately what would the starting monthly salary for this new employee be if hired by your company during the current business quarter?

_____ 251 - 500	_____ 1751 - 2000	_____ 3251 - 3500
_____ 501 - 750	_____ 2001 - 2250	_____ 3501 - 3750
_____ 751 - 1000	_____ 2251 - 2500	_____ 3751 - 4000
_____ 1001 - 1250	_____ 2501 - 2750	_____ other _____
_____ 1251 - 1500	_____ 2751 - 3000	_____ _____
_____ 1501 - 1750	_____ 3001 - 3250	

2. Were employees who were hired without previous work experience adequately prepared by the educational institutions to handle the position to which they were assigned? . . . . . Yes___ No___ na___

If yes, indicate in which areas that these employees were especially well qualified:

_____ routine accounting tasks
_____ detailed and more difficult accounting tasks
_____ accounting theory and principles
_____ computer work in relation to accounting duties
_____ human relations skills
_____ management duties
_____ use of calculating and other office machines
_____ organization of time and determining priorities
_____ other _____
_____ _____

3. Were employees who were hired without previous experience in need of additional educational background in certain areas? . . . . . Yes___ No___ na___

If yes, indicate the areas that should receive greater attention at the educational institutions:

_____ routine accounting tasks
_____ detailed and more difficult accounting tasks
_____ accounting theory and principles
_____ computer work in relation to accounting duties
_____ human relations skills
_____ management duties
_____ use of calculating and other office machines
_____ communications skills--written and oral
_____ organization of time and determining priorities
_____ other _____
_____ _____

4. Would an accounting internship or work experience program be beneficial for individuals prior to their gaining a degree and obtaining full-time employment? . . . . . Yes___ No___

If yes, would you be willing to have students work with your company in order to gain such on-the-job experience? . . . . . Yes___ No___

5. Does your company require full-time employees to attend any workshops, conferences, inservice training programs, and so forth, to up-grade their accounting knowledge and skill? . . . . . Yes___ No___

If yes, check those that apply:

_____ in-house programs
_____ attendance at professional meetings
_____ professional development courses
_____ college courses
_____ home study courses
_____ conferences
_____ workshops
_____ seminars
_____ others _____
_____ _____

6. Does your company assist employees financially to up-grade accounting knowledge and skill? . . . . . Yes___ No___

If yes, check those that apply:

_____ given lump sum of money
_____ company pays tuition
_____ company pays travel and motel expenses
_____ company pays for books and supplies
_____ company provides a living allowance
_____ other _____
_____ _____

7. Does your company subscribe to magazines specifically for accounting department personnel use? . . . . . Yes___ No___

If yes, check those that are provided:

_____ The Journal of Accountancy
_____ Management Accounting
_____ The Practical Accountant
_____ The Accounting Review
_____ The Tax Adviser
_____ Taxation for Accountants
_____ Taxes--The Tax Magazine
_____ The CPA
_____ The Journal of Taxation
_____ The CPA Journal
_____ other _____
_____ _____

8. Would additional education in accounting increase these employees' chances for promotion? . . . . . Yes___ No___

If yes, please indicate the kind of education acceptable for such promotion:

_____ in-house programs
_____ attendance at professional meetings
_____ professional development courses
_____ college courses
_____ home study courses
_____ conferences
_____ workshops
_____ seminars
_____ others _____
_____ _____

9. When an accounting employee is given a promotion, does your company have a predetermined per year amount of money that is granted with such a promotion? . . . . . Yes___ No___

If yes, please indicate the approximate range of the per year salary increase:

_____ 251 - 500
_____ 501 - 750
_____ 751 - 1000
_____ 1001 - 1250
_____ 1251 - 1500
_____ 1501 - 1750
_____ 1751 - 2000
_____ 2001 - 2250
_____ 2251 - 2500
_____ 2501 - 2750
_____ 2751 - 3000
_____ 3001 - 3250
_____ 3251 - 3500
_____ 3501 - 3750
_____ 3751 - 4000
_____ other _____
_____ _____

10. Does your company have a specific policy concerning advancement or promotion of newly hired accounting personnel? . . . . . Yes___ No___

If yes, please indicate the titles used by your company as indicated:

title of job entry position	title of first promotion position	title of second promotion position

SECTION III. SOME POST-SECONDARY EDUCATION BUT NOT A FOUR-YEAR DEGREE

Directions: If your company employs any individuals who have some post-secondary education, please complete this section.

11. Would your company hire a college accounting graduate with no previous work experience? . . . . . Yes___ No___

If yes, approximately what would be the starting monthly salary for this new employee if hired by your company during the current business quarter?

_____ 251 - 500
_____ 501 - 750
_____ 751 - 1000
_____ 1001 - 1250
_____ 1251 - 1500
_____ 1501 - 1750
_____ 1751 - 2000
_____ 2001 - 2250
_____ 2251 - 2500
_____ 2501 - 2750
_____ 3751 - 3000
_____ 3001 - 3250
_____ 3251 - 3500
_____ 3501 - 3750
_____ 3751 - 4000
_____ other _____
_____ _____

12. Were employees who were hired without previous work experience adequately prepared by the educational institutions to handle the position to which they were assigned? . . . . . Yes___ No___ na___

If yes, indicate in which areas that these employees were especially well qualified:

_____ routine accounting tasks
_____ detailed and more difficult accounting tasks
_____ accounting theory and principles
_____ computer work in relation to accounting duties
_____ human relations skills
_____ management duties
_____ use of calculating and other office machines
_____ communication skills--written and oral
_____ organization of time and determining priorities
_____ other _____
_____ _____

13. Were employees who were hired without previous experience in need of additional educational background in certain areas? . . . . . Yes___ No___ na___

If yes, indicate the areas that should receive greater attention at the educational institutions:

_____ routine accounting tasks
_____ detailed and more difficult accounting tasks
_____ accounting theory and principles
_____ computer work in relation to accounting duties
_____ human relations skills
_____ management duties
_____ use of calculating and other office machines
_____ communications skills--written and oral
_____ organization of time and determining priorities
_____ other _____
_____ _____

14. Would an accounting internship or work experience program be beneficial for individuals prior to their gaining a degree and obtaining full-time employment? . . . . . Yes___ No___

If yes, would you be willing to have students work with your company in order to gain such on-the-job experience? . . . . . Yes___ No___

15. Does your company require full-time employees to attend any workshops, conferences, inservice training programs, and so forth, to up-grade their accounting knowledge and skill? . . . . . Yes___ No___

If yes, check those that apply:

_____ in-house programs
_____ attendance at professional meetings
_____ professional development courses
_____ college courses
_____ home study courses
_____ conferences
_____ workshops
_____ seminars
_____ others _____
_____ _____

16. Does your company assist employees financially to up-grade accounting knowledge and skill? . . . . . Yes___ No___

_____ given lump sum of money
_____ company pays tuition
_____ company pays travel and motel expenses
_____ company pays for books and supplies
_____ company provides a living allowance
_____ other _____
_____ _____

17. Does your company subscribe to magazines specifically for accounting departmental personnel use? . . . . . Yes___ No___

If yes, check those that are provided:

_____ The Journal of Accountancy
_____ Management Accounting
_____ The Practical Accountant
_____ The Accounting Review
_____ The Tax Adviser
_____ Taxation for Accountants
_____ Taxes--The Tax Magazine
_____ The CPA
_____ The Journal of Taxation
_____ The CPA Journal
_____ other _____
_____ _____

18. Would additional education in accounting increase these employees' chances for promotion? . . . . . Yes___ No___

If yes, please indicate the kind of education acceptable for such promotion:

_____ in-house programs
_____ attendance at professional meetings
_____ professional development courses
_____ college courses
_____ home study courses
_____ conferences
_____ workshops
_____ seminars
_____ other _____
_____ _____

19. When an accounting employee is given a promotion, does your company have a predetermined per year amount of money that is granted with such a promotion? . . . . . Yes___ No___

If yes, please indicate the approximate range of the per year salary increase?

_____ 251 - 500
_____ 501 - 750
_____ 751 - 1000
_____ 1001 - 1250
_____ 1251 - 1500
_____ 1501 - 1750
_____ 1751 - 2000
_____ 2001 - 2250
_____ 2251 - 2500
_____ 2501 - 2750
_____ 2751 - 3000
_____ 3001 - 3250
_____ 3251 - 3500
_____ 3501 - 3750
_____ 3751 - 4000
_____ other _____
_____ _____

20. Does your company have a specific policy concerning advancement or promotion of newly hired accounting personnel? . . . . . Yes___ No___

If yes, please indicate the titles used by your company as indicated:

title of job entry position	title of first promotion position	title of second promotion position

SECTION IV. ACCOUNTANT'S NAMES AND DEGREES HELD

Directions: Please list the full-time accounting employees who have been employed or hired by your company since 1973. Please indicate whether they have a four-year university degree.

	Name	Degree Held?
1.	_____	Yes____ No ____
2.	_____	Yes____ No ____
3.	_____	Yes____ No ____
4.	_____	Yes____ No ____
5.	_____	Yes____ No ____
6.	_____	Yes____ No ____
7.	_____	Yes____ No ____
8.	_____	Yes____ No ____
9.	_____	Yes____ No ____
10.	_____	Yes____ No ____
11.	_____	Yes____ No ____
12.	_____	Yes____ No ____

Appendix E

Instrument used during Accountant Interview

INFORMATION FROM ACCOUNTANTS ON THE JOB

SECTION I. EDUCATIONAL BACKGROUND

Name _____ Year obtained associate degree _____ School _____

Year of high school graduation _____ Year obtained bachelor's degree _____ School _____

Working toward CPA _____ or CMA _____ or year obtained CPA _____ or year obtained CMA _____ or na _____

Directions: In Column I is a scale to indicate how much benefit you received from taking a specified course in relation to your present full-time accounting position. Column II is a listing of courses. In Column III spaces are provided where you can indicate where a particular course was taken. If you did not take a course as shown in Columns II and III, indicate this fact by placing a check in the "not applicable" column.

COLUMN I				COLUMN II	COLUMN III					
Great Benefit	Some Benefit	No Benefit	Not Applicable	Classes	High School	Business School	Voc. Tech.	4-Yr. Inst.	On the Job	Other
				First year bookkeeping						
				Second year bookkeeping						
				Elementary Accounting I						
				Elementary Accounting II						
				Managerial Accounting						
				Intermediate Accounting I						
				Intermediate Accounting II						
				Advanced Accounting I						
				Advanced Accounting II						
				Cost Accounting I						
				Cost Accounting II						
				Industrial Accounting						
				Auditing						
				Federal Income Tax Accounting I						
				Federal Income Tax Accounting II						
				Basic Computer Concepts I						
				Basic Computer Concepts II						
				Basic Programming						
				COBOL Programming						
				Fortran Programming I						
				Advanced Fortran Programming						
				Data Processing Applications						
				Systems Design and Development						
				Principles of Insurance						
				Business Mathematics						

COLUMN I				COLUMN II	COLUMN III				
Great Benefit	Some Benefit	No Benefit	Not Applicable	Classes	High School	Business School	Voc. Tech.	4-Yr. Inst.	On the Job	Other
				Business English						
				Technical Writing						
				Business Law						
				Business Statistics						
				Principles of Finance						
				Principles of Business						
				Management Information Systems						
				Office Management						
				Principles of Management						
				Principles of Advertising						
				Economics I						
				Economics II						
				Keypunching						
				Business Machines						
				Others:						

SECTION II. SALARY AND VIEW OF EMPLOYER PRACTICES

Directions: Please answer the followirg questions by filling in the blanks and checking the alternatives that apply. Feel free to add any comments you feel appropriate.

1. Title of position currently held: _____

2. What is the current gross monthly salary you are now receiving in your present position?

_____ 251 - 500	_____ 1751 - 2000	_____ 3251 - 3500
_____ 501 - 750	_____ 2001 - 2250	_____ 3501 - 3750
_____ 751 - 1000	_____ 2251 - 2500	_____ 3751 - 4000
_____ 1001 - 1250	_____ 2501 - 2750	_____ other _____
_____ 1251 - 1500	_____ 2751 - 3000	_____ _____
_____ 1501 - 1750	_____ 3001 - 3250	

3. How long have you been employed by your current employer?

_____ less than one year
_____ one to two years
_____ three to four years
_____ five to six years
_____ other _____

4. What is the length of time you have been working in your present position?

_____ less than six months
_____ seven months to a year
_____ more than one year but less than two years
_____ more than two years but less than three years
_____ more than three years but less than four years
_____ more than four years but less than five years
_____ more than five years but less than six years
_____ six years or more
_____ other _____

5. Have you held any other accounting related positions in this company? Yes___ No___

If yes, please complete the following:
a) What was the title of your previous position? _____
b) What was the approximate salary for that position? _____
c) How long did you hold your previous position? _____

If no, indicate which of the following possibilities applies to you:
a) _____ This is the first accounting position held since graduation.
b) _____ Obtained this position by transferring from another company.
c) _____ Other _____

6. Will you have the opportunity to be promoted to a higher position if you continue working for your present employer? . . . . . Yes___ No___

If yes, please complete the following:
a) What would be your title if you were promoted? _____
b) How long before such a promotion might become available to you? _____

If no, please indicate the reasons for not being given a promotion:
a) _____ no more higher positions within this company
b) _____ need additional education
c) _____ need additional experience
d) _____ need greater skill and knowledge
e) _____ other _____
f) _____ _____

7. Would additional education in accounting increase your chances for promotion? . . . . . Yes___ No___

If yes, please indicate the kind of education acceptable for such promotion:

_____ in-house programs
_____ attendance at professional meetings
_____ professional development courses
_____ college courses
_____ home study courses
_____ conferences
_____ workshops
_____ seminars
_____ others _____
_____ _____

8. When you are given a promotion, does your company have a predetermined per year amount of money that is granted with such a promotion? . . . . . Yes___ No___

If yes, please indicate the approximate range of the per year gross salary increase:

_____ 251 - 500
_____ 501 - 750
_____ 751 - 1000
_____ 1001 - 1250
_____ 1251 - 1500
_____ 1501 - 1750
_____ 1751 - 2000
_____ 2001 - 2250
_____ 2251 - 2500
_____ 2501 - 2750
_____ 2751 - 3000
_____ 3001 - 3250
_____ 3251 - 3500
_____ 3501 - 3750
_____ 3751 - 4000
_____ other _____
_____ _____

9. Does your company have a specific policy concerning advancement to promotion of newly hired accounting personnel? . . . . . Yes___ No___

If yes, please indicate the titles used by your company as indicated:

title of job entry position	title of first promotion position	title of second promotion position
_____	_____	_____
_____	_____	_____
_____	_____	_____

10. Would your company hire a graduate with no previous work experience? . . . . . Yes___ No___

If yes, approximately what would be your starting monthly gross salary if you were hired by your company during the current business quarter:

_____ 251 - 500
_____ 501 - 750
_____ 751 - 1000
_____ 1001 - 1250
_____ 1251 - 1500
_____ 1501 - 1750
_____ 1751 - 2000
_____ 2001 - 2250
_____ 2251 - 2500
_____ 2501 - 2750
_____ 2751 - 3000
_____ 3001 - 3250
_____ 3251 - 3500
_____ 3501 - 3750
_____ 3751 - 4000
_____ other _____
_____ _____

11. Only answer this question if you were hired by your current employer without any previous work experience. Were you adequately prepared by the educational institution to handle the position to which you were assigned? . . . . . Yes___ No___

If yes, indicate in which areas that you were especially well qualified:

_____ routine accounting tasks
_____ detailed and more difficult accounting tasks
_____ accounting theory and principles
_____ computer work in relation to accounting duties
_____ human relations skills
_____ management duties
_____ use of calculating and other office machines
_____ communication skills--written and oral
_____ organization of time and determining priorities
_____ other _____
_____ _____

12. Only answer this question if you were hired by your current employer without any previous work experience. Were you in need of additional educational background in certain areas? . . . . . Yes___ No___

If yes, indicate the areas that should receive greater attention at the educational institutions:

_____ routine accounting tasks
_____ detailed and more difficult accounting tasks
_____ accounting theory and principles
_____ computer work in relation to accounting duties
_____ human relations skills
_____ management duties
_____ use of calculating and other office machines
_____ organization of time and determining priorities
_____ other _____
_____ _____

13. Would an accounting internship or work experience program have been beneficial for you prior to your obtaining a degree and finding full-time employment? . . . . . Yes___ No___

If yes, would you have been willing to work for a company during your school preparation in order to gain such on-the-job experience? . . . . . Yes___ No___

14. Does your company require you to attend any workshops, conferences, inservice training programs, and so forth, to up-grade your accounting knowledge and skill? . . . . . Yes___ No___

If yes, check those that apply:

_____ in-house programs
_____ attendance at professional meetings
_____ professional development courses
_____ college courses
_____ home study courses
_____ conferences
_____ workshops
_____ seminars
_____ other _____
_____ _____

15. Does your company assist you financially to up-grade accounting knowledge and skill? . . . . . Yes___ No___

If yes, check those that apply:

_____ given lump sum of money
_____ company pays tuition
_____ company pays travel and motel expenses
_____ company pays for books and supplies
_____ company provides a living allowance
_____ other _____
_____ _____

16. Does your company subscribe to magazines specifically for your use in the accounting department? . . . . . Yes___ No___

If yes, check those that are provided:

_____ The Journal of Accountancy
_____ Management Accounting
_____ The Practical Accountant
_____ The Accounting Review
_____ The Tax Adviser
_____ Taxation for Accountants
_____ Taxes--The Tax Magazine
_____ The CPA
_____ The Journal of Taxation
_____ The CPA Journal
_____ other _____
_____ _____

Appendix F

Titles of Persons Interviewed for Employer Information

Titles Held By Individuals Interviewed To Obtain Employer Information

Accounting Department Manager
Assistant Controller (2)
Accountant/Manager
Assistant Secretary-Treasurer and Controller
Assistant Secretary/Treasurer

Administrative Manager
Accounting Supervisor
Bookkeeper (2)
Controller (7)
Controller/Secretary Treasurer

Corporate Operations Officer
Employment Supervisor
Office Manager (4)
Personnel Director (2)
Personnel Manager

Personnel Vice President
Payroll and Personnel
Secretary-Controller
Secretary/Treasurer
Treasurer (3)

Treasurer/Controller
Vice President
Vice President of Finance
Vice President--Controller (2)

Appendix G

Title of Positions Held by Accountants Interviewed

TITLE OR POSITION CURRENTLY HELD

Accountant (9)
Controller (5)
Bookkeeper (4)
Office Manager (4)
Accounting Clerk (2)

Accounting Department Manager (2)
Accounting Supervisor (2)
Analytical Accountant (2)
Assistant Controller (2)
Payroll Clerk (2)

Treasurer (2)
Accountant/Financial Manager
Accountant/Manager
Accounting Data Analyst
Accounting Manager

Accounts Payable Clerk
Accounts Payable--Inventory Control
Accounts Payable Supervisor
Accounts Receivable, Payroll Clerk
Accounts Receivable Supervisor

Assistant Accounting Supervisor
Assistant Controller/Accounting Office
Assistant Joint Interest Accounting Supervisor
Assistant Manager--Inventory Control
Assistant Secretary Treasurer

Assistant Vice President--Cashier
Auditor
Billing Supervisor
Bookkeeper--Accounting Clerk
Chief Accountant

Chief Senior Accountant
Computer Operator
Data Processing Manager and Accountant Supervisor
Data Processing Supervisor
General Ledger Accountant

Internal Auditor
Junior Accountant
Loan Officer--Bank
Manager Administrative Accounting
Manager of General Accounting

New Car Accounts--Secretary
Office Manager Retail Accounting
Payroll Accounting Clerk
Payroll Accountant
Payroll Clerk and Cost Accountant

Payroll Manager
Payroll Supervisor
Property Accountant
Purchasing Agent
Retail Accountant

Secretary--Accountant
Senior Accountant
Senior Accountant/Production and Royalty
Senior Accounting Clerk
Staff Accountant

Supervisor, Disbursements
Treasurer--Controller
Vice President and Assistant Comptroller
Vice President--Treasurer
Warehouse Accountant

Appendix H

Schools Attended by Accountants

SCHOOLS ATTENDED BY ACCOUNTANTS

Utah Schools:

Brigham Young University
Dixie Junior College
LDS Business College
Stevens Henager College
Southern Utah State College
University of Utah
Utah State University
Utah Technical College
Weber State College

Other Schools:

Indiana Central University
Kenway School of Accounting
Principia College
Purdue University
Ricks College
St. Petersburg Junior College
University of Denver
University of Northern Iowa
University of Washington
University of Wisconsin--Banking Administration Institute

VITA

Anita Weston

Candidate for the Degree of

Doctor of Education

Dissertation: A Comparison of Employer Hiring Practices and Career Opportunities Between Two-Year and Four-Year Accounting Graduates Who Have Full-Time Positions in the Work Force Within the State of Utah.

Major Field: Business Education

Biographical Information

Personal Data: Born in Garden City, Utah, April 18, 1942. Daughter of Ben E. and Marie Weston.

Education: Attended elementary school in Garden City, Utah; graduated from North Rich High School, Laketown, Utah, in 1960. Attended Brigham Young University for three years. Worked in business until returned to Brigham Young University in 1969 and completed Bachelor of Science Degree with a major in business education in 1970. Completed the requirements for a Master of Science Degree at Utah State University in 1976 with a major in business education. Completed the requirements for the Doctor of Education degree, specializing in curriculum development and supervision with a special emphasis in business education at Utah State University in 1980.

Professional Experience: September 1970 to July 1972--Business Teacher at Cardston, Alberta, Canada.

September, 1972 to June, 1975--Business Teacher at Cokeville High School, Cokeville, Wyoming.

September, 1975 to June, 1976--Teaching Assistant at Utah State University, Logan, Utah.

September, 1976 to June, 1979--Lecturer at Utah State University, Logan, Utah.

September, 1979 to present--Instructor at Utah State University, Logan, Utah.